

# MISSOURI'S MILITARY INFRASTRUCTURE

A Base Realignment and Closure (BRAC) Preparatory Assessment



February 2013

*Prepared for the Hawthorn Foundation by:  
Kit Bond Strategies, LLP, Development Strategies, Cardinal Point Partners, Bryan Cave, LLP,  
Flagship Government Relations & Husch Blackwell*

## TABLE OF CONTENTS

### SECTION I – Strategic Overview

Chapter 1 – Introduction.....	6
Chapter 2 – Economic Impact in Missouri.....	9
Chapter 3 - BRAC Background and Strategic Environment.....	15
Chapter 4 - DOD Report to Congress on BRAC.....	17
Chapter 5 – Initiative Goals and Efforts.....	19
Chapter 6 - Public Engagements.....	21
Chapter 7 - Department of Defense Funding Outlook.....	22
Chapter 8 – Supporting Military Communities & Economic Growth.....	26

### SECTION II – Comprehensive Economic Impact, Methodology and Assumptions

Chapter 9 – Multipliers.....	31
Chapter 10 - Assumptions and Limitations.....	35
Chapter 11 - Economic Impacts of Department of Defense Contracts.....	36
Chapter 12 - Department of Defense Operations in Missouri.....	47
Chapter 13 - Economic Impacts of Missouri National Guard.....	75

### Appendices

- I-Industry Data
- II-Industry Input Estimates
- III-Industry Multiplier Impacts

## SECTION I - Strategic Overview

This strategic assessment of current the Department of Defense (DoD) installations in Missouri has been commenced in order to prepare for a potential Base Realignment and Closure (BRAC) round through which DoD would seek to reduce excess basing infrastructure in its inventory. In 2012, DoD requested authorization from Congress for another BRAC round and has stated it will renew that request in 2013 with the submission of the Fiscal Year (FY) 2014 Budget. Congress declined to provide its authorization in 2012 and it remains to be seen whether it will approve authorization in 2013. Considering the planned reduction in military force structure and defense spending over the next ten years, however, there is a substantial likelihood of another round taking place at some point this decade.

Missouri's DoD footprint plays an integral role in Missouri's economy and the lives of many of its citizens. Fort Leonard Wood, Whiteman Air Force Base and the Missouri National Guard make up the largest share of the military footprint in Missouri. Considering what is at stake, the State has taken prudent and proactive action by initiating this assessment. It is a first step in defending and enhancing Missouri's bases and reflects the high priority that Governor Nixon places on the military and DoD functions in Missouri.

Among the many supporters and promoters of the U.S. military's presence in Missouri, the Missouri Military Preparedness and Enhancement Commission (MMPEC) serves as the State's primary military stakeholder organization. Its responsibilities include the defense and expansion of military bases and missions in Missouri. This initial assessment, and any subsequent, more comprehensive initiative to prepare Missouri for BRAC and to enhance and expand the DoD footprint in Missouri, will necessitate close coordination and involvement with the MMPEC's efforts. States and local communities across the U.S. have or are in the process of initiating BRAC preparatory efforts. In order for Missouri to emerge favorably from another BRAC round, Missouri must have broad political support from the Governor and General Assembly for a sustained, comprehensive and sufficiently resourced BRAC- preparatory initiative as well.

In an effort to launch such an initiative, Governor Nixon commenced this assessment which explores several key questions about the challenges and opportunities Missouri would face in preparing for a new BRAC round:

- To understand what is at stake in a potential BRAC, what is the Defense Department's economic impact on the State of Missouri?
- What is the nature of the defense planning and funding environment over the next decade, which would shape the goals and implementation of BRAC?
- What are the strengths and weaknesses of Missouri's bases, in terms of how they fared in the last BRAC round and their status today, and what challenges and opportunities might they face in a new BRAC round?
- What strategic recommendations does the analysis imply for an effective Missouri base defense and expansion effort?

## **Department of Defense's Economic Impact on the state of Missouri**

The DoD is a major contributor to the state of Missouri's economy. Through its military departments of the Army, Navy, and Air Force as well as the non-military agencies under the Office of the Secretary of Defense, DoD spends approximately \$14.9 billion in the state to operate its installations, pay its personnel, and purchase goods and services from private firms. This spending, in turn, is a catalyst for job creation in the state and generates a host of private industry activity, including direct impacts from visitor spending and allocations of Impact Aid for local school districts near DoD installations.

The greatest economic impacts of the DoD can be summarized two major categories: 1) the impacts of awarding prime contracts to Missouri-based vendors to produce goods and provide services to support DoD operations within the state, nationally, and internationally. For the years 2009-2012, the average annual direct spending from these contracts was \$11.7 billion, which, through multiplier effects, accounted for \$33.2 billion in total economic activity.

2) The impacts of operational spending for DoD installations in the state, which includes direct payroll expenditures for military, civilian, contracted and retired personnel. For 2010 and 2011, the total impact of operational spending on Missouri was \$608.7 million, including support of 10,820 direct and indirect jobs in the State. These figures illustrate starkly the importance of the Defense Department's presence in the state, and the risks and opportunities of a BRAC round for maintaining and growing them.

## **Outlook for Defense Spending and Force Structure**

There is tremendous and unprecedented uncertainty surrounding how DoD budgeting will be executed. However, there is widespread consensus that the primary question will not be whether DoD spending is reduced, but by how deep and far-reaching. The most significant and yet to be resolved factor depends on the outcome of the automatic federal spending reductions otherwise known as "sequestration." Congress and the President agreed to the sequestration cuts as part of the 2011 debt ceiling compromise, but were never envisioned to actually be implemented. For DoD, sequestration would mean up to \$500 billion in cuts over 10 years, on top of the already implemented \$487 billion in cuts over ten years required by the Budget Control Act of 2011. Additional cuts to the DoD budget beyond those already mandated in the 2011 Budget Control Act would have an extremely detrimental impact on DoD readiness across the services, from operations, training, and much-needed modernization and recapitalization of equipment.

It appears evident that the cuts will likely fall more heavily on Army land forces that have been more heavily relied upon over the last decade in Afghanistan and Iraq. Alternative 1 of Army 2020, a strategic planning document, would result in the loss of approximately 3,900 Soldier and Army government civilian employees at FLW, each with an average annual income of \$41,830. In addition, this alternative would affect an estimated 2,156 spouses and 3,709 dependent children. Moving forward, advocacy for no reductions in Army end-strength would be the most desirable for FLW. However, given the fiscal and budgetary pressures, it is deemed likely that the planned Army end-strength reductions from 560,000 to 490,000 are likely to



continue and that the No Action Alternative is deemed unlikely, barring a major global, national security event.

On the Air Force, large recapitalization and modernization projects such as the F-35 Joint Strike Fighter and the KC-46 Refueling Tanker are considered by many targets for potential reductions. Neither of these missions is designated for WAFB in the future. The B-2, A-10 and Apache Longbow platforms and their facilities are not considered targets, at least in the near to medium term, for substantial budgetary reductions or elimination. The uniqueness and strategic nature of the B-2, most of all, will help ensure it receives the resources necessary to sustain its paramount mission.

The degree to which additional cuts will impact Missouri remain to be seen given the highly unconventional and politically-charged environment surrounding the budget. It is certain, however, that these likely reductions in DoD funding will impact the domestic installation footprint, military force structure and procurement activities in Missouri. Following the submission of this assessment, continued and careful monitoring of the budget environment in DoD will be necessary. Further, a sustained advocacy campaign targeted at DoD and especially the Congress to mitigate the looming cuts and protect the Missouri DoD footprint will be paramount.

## Chapter 1 – Introduction

The State of Missouri, through the Hawthorn Foundation, has put together an unparalleled team led by former Missouri Governor and 4-term U.S. Senator Kit Bond, former 16-term U.S. Representative and House Armed Services Committee Chairman Ike Skelton, and former Senator Alan Dixon, who served as BRAC Chairman from 1994 to 1995. With Chairman Skelton, Senator Bond and Senator Dixon, the entire team is comprised of Kit Bond Strategies LLP, Cardinal Point Partners, Bryan Cave LLP, Development Strategies, Flagship Government Relations and Husch Blackwell. They have been commissioned to examine the economic impact of Missouri's Department of Defense (DoD) infrastructure and conduct a strategic strengths and weaknesses assessment of Missouri's major military installations in the context of a Base Realignment and Closure (BRAC) initiation in the near future.

This strategic assessment of current DoD installations in Missouri has been commenced in anticipation of and in order to prepare for a potential BRAC, that has thus far, not been initiated. However, given what is at stake in Missouri, the substantial strategic footprint of Missouri's DoD installations, the economic impact they have in Missouri and the early 2012 attempts by the DoD to initiate another BRAC, the State of Missouri has taken prudent, proactive and preparatory action by initiating this assessment. As this assessment was being finalized, so too was the Fiscal Year 2014 DoD Budget. Prior to its official release, the Secretary of Defense confirmed that the budget would request another round of base closures and realignments, citing the necessity for reduced infrastructure commensurate with a reduced force.

This assessment is a preliminary initiative that reflects Missouri Governor Jay Nixon's prioritization for ensuring Missouri is properly preparing for another BRAC. This assessment serves as a launching point for a subsequent, more comprehensive and sustained effort that will be required. A follow-on effort must be commenced to protect current missions and infrastructure, while seeking out and attracting new missions and operations. Further, it will be necessary to promote and market Missouri as a military friendly and supportive state as it works with state and local governments, business leaders, economic development organizations, veterans and military retiree organizations and its congressional leaders in Washington, DC. Attracting new missions and operations, as it has in the past, will create new jobs for Missourians, increase economic activity, enhance military value for the DoD and further underscore Missouri as a paramount center within the U.S. national security apparatus now and into the future.

By conducting an assessment of the strengths and weaknesses of Missouri's military installations, the State of Missouri will be in strengthened position to mitigate the negative impacts of BRAC on its DoD facilities. This assessment discusses ways to enhance the military value of the DoD installations in Missouri, best prepare them to endure a subsequent BRAC and explore what new missions and operations they could assume to strengthen their position going into a BRAC. Many of these strategies and recommendations require further study and are intended to be highlighted by this preliminary assessment. Others involve actions that can be taken directly by the State itself, such as state and community partnership development, encroachment mitigation, conducting surrounding infrastructure improvements, legislative corrections, etc., or indirectly through efforts in conjunction with the Congressional delegation

and appropriate military installation stakeholders. If BRAC is to be a top priority for the State of Missouri, a comprehensive and sustained follow-on effort is required. Such an effort is necessary to coordinate and emphasize BRAC's importance among all relevant state agencies and the many DoD stakeholders. It will also provide unity and efficiency of effort to ensure Missouri is mitigating the weaknesses and underscoring the assets that can make the biggest difference in helping the DoD and the military execute their missions in Missouri.

As an example, when Redstone Arsenal in Huntsville, AL was awarded 4,600 new military jobs in the 2005 BRAC, government and civic leaders organized to help the Army deal with the rapid growth that would ensue from the BRAC realignments. In this instance, Tennessee Valley leaders took the lead in promoting and preparing the area for BRAC, setting up a committee made up of city, county and business leaders from the Shoals to southern Tennessee to lobby in Washington and work with congressional leaders, with support from the State of Alabama. The Huntsville Community and State of Alabama have been successful at forging strong partnerships with DoD and coordinating efforts amongst all of their stakeholders that has resulted in a vibrant DoD center that can serve as an illustrative example for Missouri to emulate.

Among the many military stakeholders across Missouri, the Missouri Military Preparedness and Enhancement Commission (MMPEC) serves as Missouri's primary statewide military stakeholder organization. MMPEC was created with passage of Senate Bill 252 and House Bill 348 in 2005 and MMPEC's duties and responsibilities were expanded with the passage of House Bill 1678 in 2008. Its mission, responsibilities and directives include:

- Advise the governor and the general assembly on military issues and economic and industrial development related to military issues;
- Work with communities in the formation and execution of programs that enhance a community's relationship with military installations and defense-related businesses, including regional alliances that may extend over state lines.
- Considers all current and anticipated base realignment and closure criteria; and,
- Develops strategies to protect the states existing military missions and positions the state to be competitive for new and expanded military missions.

The MMPEC is often pointed to and or cited by the DoD as a model for how states can support and promote DoD activities in the states. This initial assessment, and any subsequent, more comprehensive initiative to prepare Missouri for BRAC and to enhance and expand the DoD footprint in Missouri, will necessitate close coordination and involvement with the MMPEC's efforts. Assessing state and local environments for base support as well as work performed to support economic growth of communities near bases should be led by the MMPEC. The state should turn to their leadership for this purpose. This will be an integral operation for the State of Missouri as it prepares for future BRAC activities.

Of additional importance and note, a significant portion of the strategies and initiatives identified and recommended within this assessment are to be pursued in advance of and external to any subsequent BRAC process. For example, instead of waiting for a BRAC to realign or establish a new mission or operation to Missouri, this assessment highlights some potential

“low-hanging fruit” or synergistic new missions and operations that could be pursued. In addition to what the State of Missouri can do, such strategies and initiatives will involve appropriate DoD and stakeholder engagement and leveraging of the Missouri Congressional Delegation to support and advocate for implementation. The Missouri Congressional Delegation is well positioned to play an active role in the formation for future BRAC decision-making criteria. This will be an invaluable asset to protect and expand the DoD facilities in Missouri. All future legislative and advocacy activities should be closely coordinated with Missouri Senators and Representatives. Further, this proactive strategy of pursuing new missions in the near-term has the dual benefit to Missouri of both reaping the commensurate economic benefits therein and better positioning Missouri’s installations to endure close BRAC scrutiny.

## Chapter 2 - Economic Impact in Missouri

### Department of Defense's Economic Impact on the state of Missouri

The DoD is a major contributor to the state of Missouri's economy. Through its military departments of the Army, Navy, and Air Force as well as the non-military agencies under the Office of the Secretary of Defense, DoD spends approximately \$14.9 billion in the state to operate its installations, pay its personnel, and purchase goods and services from private firms. This spending, in turn, is a catalyst for job creation in the state and generates a host of private industry activity, including direct impacts from visitor spending and allocations of Impact Aid for local school districts near DoD installations.

The economic impacts of the DoD can be summarized into three major categories: 1) the impacts of awarding prime contracts to Missouri-based vendors to produce goods and/or provide services to support DoD operations within the state, nationally, and internationally, 2) the impacts of operational spending for DoD installations in the state, which includes direct payroll expenditures for military, civilian, contracted and retired personnel, and 3) other impacts from out-of-state visitor spending as well as Impact Aid allocated to local school districts near DoD installations.

### Economic Impacts of Contract Awards to Missouri-based firms

- From FY2009 to FY2012, the Department of Defense awarded an average of \$11.7 billion (in 2012 dollars) in prime contracts to Missouri-based firms.
- Direct employee wages were estimated at \$2.2 billion, which supported approximately 43,700 direct jobs in the state.
- Contracts were awarded to Missouri-based firms representing 55 of 62 possible industry sectors within the state indicating that the Department of Defense affects almost every industry sector in the state.
- The Boeing Company and other subsidiaries based in Missouri were awarded an average of \$8.1 billion annually, which accounted for 69 percent of total Department of Defense contract spending in the state.
- From FY2009 to FY2012, 2,643 different firms were awarded Department of Defense contracts in the state, but the top 50 firms by contract award amount were awarded approximately 95 percent of total contract awards.
- The total economic output of Department of Defense contract spending averaged \$33.2 billion, of which, household earnings accounted for \$7.5 billion.
- Department of Defense contract spending supported approximately 162,000 direct and indirect jobs in Missouri; it is estimated that a 15 percent reduction in contract awards would result in a loss of over 24,000 jobs.

**Economic Impacts of Whiteman Air Force Base**

- From FY2010 to FY2011, Whiteman AFB directly hired an average of 9,061 personnel including 5,131 active duty and reserve personnel, 852 National Guard personnel, 973 civilian personnel, and 2,105 contracted laborers.
- In total, Whiteman AFB spent an average of \$542.6 million, in 2012 dollars, to support its operations.
- Of the total operational spending, \$262.2 million of its payroll expenditures are attributed to the Missouri economy.
- The total economic output of Whiteman AFB's personnel spending was \$608.7 million, of which household earnings accounted for \$351.3 million.
- The operation of Whiteman AFB supported 10,850 direct and indirect jobs in the state of Missouri.
- Out-of-state visitors to Whiteman AFB for the Wings Over Whiteman (WOW) air show spent an average of \$996,400 annually in the state, which resulted in \$2.9 million in total economic output, \$660,400 in household earnings, and supported approximately 25 jobs in the state.
- Complete base closure would increase the unemployment rate in Johnson County from 6.2 percent to 16.4 percent, not including active military personnel.

**Economic Impacts of Fort Leonard Wood**

- From FY2010 to FY2012, Fort Leonard Wood directly hired an average of 27,716 personnel including 6,898 active duty military personnel (275 National Guard), 9,146 civilian personnel, 1,304 training officers and a Full-Time Equivalent (FTE) of approximately 10,368 trainees (50,000 individuals are trained annually).
- In total, Fort Leonard Wood spent an average of \$1.5 billion, in 2012 dollars, to support its operations.
- Of total operational spending, \$888.5 million of its payroll expenditures are attributed to the Missouri economy.
- The total economic output of Fort Leonard Wood's personnel spending was \$2.1 billion, of which, household earnings accounted for \$1.2 billion.
- The operation of Fort Leonard Wood supported approximately 36,400 direct and indirect jobs in the state of Missouri.



### **Economic Impacts of the Missouri National Guard**

- Out-of-state visitors to Fort Leonard Wood spent an average of \$57.3 million annually in the state, which resulted in \$167.3 million in total economic output, \$38.6 million in household earnings, and supported approximately 1,500 jobs in the state.
- Complete base closure would increase the combined unemployment rate in Pulaski, Phelps, and Laclede Counties from 7.5 percent to 21.0 percent, not including military personnel.
- From FY2010 to FY2012, the Missouri National Guard directly hired an average of 14,152 personnel including 11,467 assigned personnel, 986 active duty, 1,502 civilians, and 196 state FTEs.
- In total, the Missouri National Guard spent an average of \$627.5 million, in 2012 dollars, to support its operations.
- Of total operational spending, \$406.3 million of its payroll expenditures are attributed to the Missouri economy.
- The total economic output of the Missouri National Guard's personnel spending was \$943.1 million, of which, household earnings accounted for \$544.4 million.
- The operation of the Missouri National Guard supported approximately 18,250 direct and indirect jobs in the state of Missouri.

### **Economic Impacts of Minor Installations, Inactive Duty Personnel, and Retirees**

- The Department of Defense spent an average of \$1.7 billion, in 2012 dollars, for personnel expenditures at its minor installations in the state, inactive military personnel (reserve), and pension payments for state residents.
- The total economic output of this spending was \$3.9 billion, of which household earnings accounted for \$2.2 billion.
- This spending supported almost 46,000 jobs in the state including an estimated 29,000 direct jobs for minor installations and FTEs of inactive military personnel.

### **Economic Impacts of Impact Aid to Missouri School Districts**

- From FY2011 to FY2012 the state of Missouri received an average of \$16.8 million, in 2012 dollars, in Impact Aid to its school districts.
- The Waynesville School District (Fort Leonard Wood) received almost 80 percent of this allocation and the Knob Noster School District received almost 20 percent. All other school districts in the state received less than one percent of the total allocation of Impact Aid for Missouri.

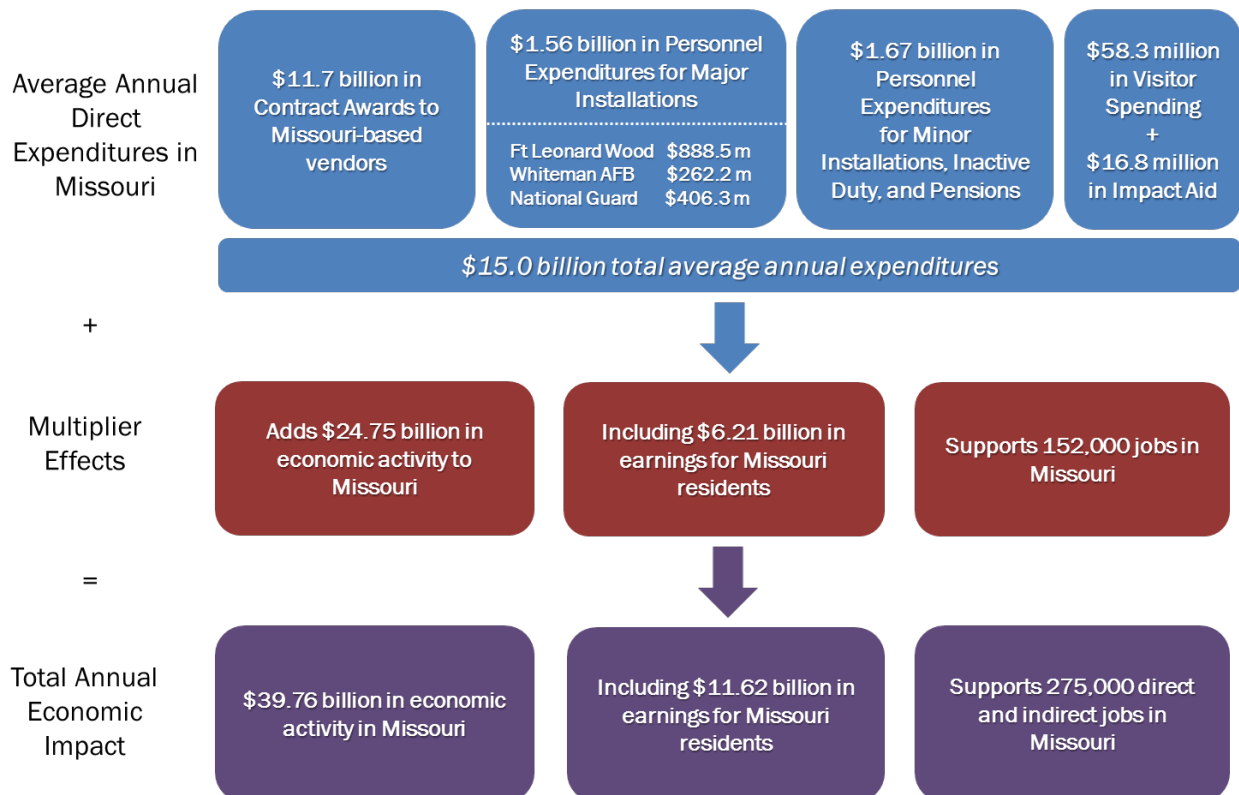
- The total economic output of Impact Aid in the state was \$48.4 million, of which household earnings accounted for \$15.9 million.
- Impact Aid supported approximately 580 jobs in the state including an estimated 280 jobs for teachers, administrators, and other employees of Missouri school districts.

## Total Economic Impacts of Department of Defense Spending in Missouri

- When considering DoD contract awards and personnel expenditures in the state, as well as out-of-state visitor spending and Impact Aid, DoD spending and activities directly contributed \$15.0 billion, in 2012 dollars, to the Missouri economy.
- The total economic output of this spending was \$39.76 billion, of which household earnings accounted for \$11.62 billion.
- Overall, this spending supported 275,350 jobs including 123,200 direct jobs for active military personnel, civilian personnel, contract laborers, inactive duty FTEs, personnel, trainees, and workers directly hired by contracted firms and other tourism and education related industries.

The diagram on below shows the total economic impacts of DoD spending, operations, and activities in the state of Missouri.

Summary of the Department of Defense's Economic Impacts on Missouri



**The United States Department of Defense's direct impacts on the state of Missouri are twofold:**

1) The Department of Defense awards primary contracts to Missouri-based firms to provide goods and services for agency operations in state, nationally, and worldwide; these goods and services range from sophisticated vehicles and weaponry to food services and uniforms. The majority of these contracts are awarded to the Boeing Company, based in St. Louis, for the production of aircraft and other machinery, but there are also significant contract awards for firms providing professional and technical services, as well as other manufacturing for computers and electronics, food products, and other machinery. Overall, manufacturing makes up over 60 percent of all DoD contract awards in the state of Missouri.

2) The Department of Defense owns and operates several major and minor installations throughout the state. These installations support operations for the nation's military branches including the Army, Air Force, Navy, and Marines as well as the non-military branches such as the Army Corps of Engineers and Defense Information Systems Agency. This spending includes payroll to military and civilian personnel, operational expenditures at installations, contracted goods and services to support installation operations, construction and other capital improvements, and pension payments to retirees. Fort Leonard Wood and Whiteman Air Force Base are the two largest installations in the state and both serve as significant contributors to the local economies in their respective regions by paying its personnel, attracting out-of-state visitors, and allowing its school districts to receive Impact Aid. Additionally, the Missouri National Guard also has a substantial presence throughout the state with personnel assigned to and/or operations in 57 counties statewide.

Business activity initiated by the Department of Defense to operate and expand its facilities, pay its employees or contract Missouri-based firms triggers further economic activity as these expenditures create income for recipients (employees and other businesses). Employees, in turn, spend their wages mostly near where they live, supporting further economic activity at retail shops, home repair contractors, and other service providers and establishments. This subsequent spending causes "multiplier effects" in the economy that can be estimated for defined geographic areas using multiplier coefficients. Coefficients used in this report were obtained from the U.S. Department of Commerce, Bureau of Economic Analysis, from its Regional Input-Output Multiplier System, or RIMS (as will be discussed on the following pages, RIMS-II multipliers are used), and are specific to the geography being studied.

The RIMS and RIMS-II multipliers are derived from a comprehensive and complex set of inputs that are updated regularly based on the normal submission of business and employment data that make up the National Income and Products Accounts (NIPA). Such data is catalogued at the county level throughout the nation, so the RIMS-II multipliers are calculated for public use for every county. They are also aggregated for groups of counties to create a regional analysis (such as for metropolitan areas or labor market areas or entire states).

Development Strategies (DS) was commissioned by the Hawthorn Foundation, under subcontract to the Bryan Cave law firm, to enumerate the scale of the Department of Defense's operations and spending within the context of the entire state of Missouri economy. There are two key topics in this enumeration:

1. An economic and jobs impact (multiplier) analysis resulting from Department of Defense contract awards to Missouri-based firms; and
2. An economic and jobs impact (multiplier) analysis resulting from Department of Defense's operations of its installations (military and non-military) throughout the state of Missouri with a detailed focus on the major installations of Fort Leonard Wood and Whiteman Air Force Base and operations of the Missouri National Guard.

## Chapter 3 - BRAC Background and Strategic Environment

### BRAC Background and Strategic Environment

"BRAC" is an acronym that stands for Base Realignment and Closure. It is the congressionally authorized process the DoD has previously used to reorganize its base structure to support more efficiently and effectively our forces, increase operational readiness and reorient the DoD to respond to changing geopolitical trends and national security threats. The most recent BRAC was enacted in November 2005. Missouri gained force structure at its two major installations, Fort Leonard Wood and Whiteman Air Force Base, while concurrently seeing significant realignments impacting its Guard and Reserve force structure with the closure of the Lambert St. Louis Air National Guard Air Station and realignment of the Army's Human Resources Command to Kentucky.

A request from the DoD in early 2012 for two new BRAC rounds in 2013 and 2015 was put on hold stemming from Congressional opposition, most notably, from the former Chairwoman of the Senate Armed Services Readiness and Management Support Subcommittee, Senator Claire McCaskill (D-MO).

BRAC 2005 was and continues to be viewed as largely unpopular by those in Congress who went through the process and who cited flawed analysis and cost-growth, as opposed to cost-savings. According to the DoD, BRAC 2005, which focused on reshaping installations to better support forces as opposed to saving money, is now finally starting to provide recurring savings.

A primary concern regarding the cost-savings estimates which heavily influenced BRAC decisions was whether the Cost of Base Realignment and Closure (COBRA) models employed to predict the cost implications of all contemplated closures scenarios were accurate. These models came under heavy criticism from the Missouri Congressional Delegation in 2005 when the Army's Human Resources Command (HRC) functions in Overland, MO were realigned to Ft. Knox, Kentucky. It was the position of the Missouri Congressional delegation from the St. Louis area that the military construction (MILCON) costs for building an entirely new consolidated HRC facility at Ft. Knox, where there was no existing facility for HRC to move into, were not factored into the COBRA model. This omission hid the real, total costs for realigning HRC out of its existing facilities. Similarly, costs appeared to be less of a factor with the realignment of the 131<sup>st</sup> FW to Whiteman Air Force Base and off of its base at Lambert St. Louis International Airport where its negotiated lease for half of the base was \$1 at Lambert.

These Missouri examples have been backed up by a Government Accountability Office (GAO) study that indicated the DoD would not begin to see savings until 2018. They are just a few of the many examples of questionable DoD cost estimates which have generated an enhanced level of skepticism and doubt about BRAC in Congress, especially now that concerns over the federal budget have vaulted cost savings to the top of the priority list for any future BRAC. Accordingly, there has been and will continue to be greater scrutiny for the approval of additional rounds in the future. A number of Congressional Members have said that the up-front costs associated with closing bases indicates this is not the time to initiate a BRAC when budgets need to be trimmed and savings realized in the immediate near term.

Despite the lack of political support for a BRAC, most of which was expressed at the height of the 2012 election season, Defense Secretary Leon Panetta and his successor will undoubtedly assert that future base closures are necessary to achieve long-term savings as the DoD reduces its force structure. Plans to cut service personnel, primarily from the Army ranks, by 100,000 will leave the DOD with excess infrastructure.

Much of what is perceived as “excess infrastructure,” however, is considered by many to be found overseas. There appears to be strong bipartisan support for first realigning and closing excess overseas or, outside the continental United States (OCONUS), base infrastructure, particularly in Europe where much of the force structure is based on older Cold War force structure. This position was articulated in a statement by Senator Carl Levin, Chairman of the Senate Armed Services Committee, at a hearing in February, 2012: “Finding further reductions in consolidations in our overseas force posture should be our first priority before another BRAC round.” Such a result could present some opportunities for Missouri installations to absorb the missions that are still relevant and being performed at closed OCONUS installations. To capitalize on these opportunities to realign select missions to Missouri, the case must be made that such moves would generate substantial cost-savings, enhanced operational effectiveness and support the geopolitical and national security realities of the 21<sup>st</sup> century (i.e. continued unrest in the Middle East, U.S. realignment/engagement in the Asia Pacific area of responsibility and Pacific Command). The preponderance of the missions overseas, however, will not be candidates for realignment back in the continental U.S. For example, due to overall reductions in the size of the military, two Army Brigade Combat Teams will be inactivated in Europe.

With the reelection of President Barack Obama, there will be enhanced predictability of the DoD strategic environment over the next four years and a new Quadrennial Defense Review (QDR) will come out in 2014 providing further strategic direction that the State of Missouri can look towards for guidance in preparing for BRAC. A continued emphasis on positioning the military to drawdown operational ground forces that have been heavily relied upon in the Middle East and Afghanistan theaters and a reshaping of the force to be able to support the administration’s “pivot” and or “rebalancing” towards Asia, are likely to continue, barring any major unforeseen conflicts that may ensue, i.e. Iran, Syria or North Korea. With an emphasis on rebalancing forces to support enhanced engagement within the Pacific Command, long-range force projection capabilities typically more prevalent within the Air Force and Navy are better positioned for sustainment and or even possible growth. Those missions most slated for growth include those in cyber defense, remote-piloted aircraft and special operations, low-intensity conflict missions. In particular, Missouri has assumed elements of these missions and is well-positioned to assume more. The reductions in the size of the standing Army and an increased reliance on the operations of remote piloted aircraft from stand-off distances, can be interpreted that the administration is hoping to avoid any protracted ground wars or significant “boots-on-the-ground” conflicts. It further underscores the administration’s desire to engage in any potential conflicts in the future with a leaner, more technologically-reliant force.



## Chapter 4 – DOD Report to Congress on BRAC

This assessment of the strengths and weaknesses of Missouri's DoD installations is being conducted prior to the authorization and initiation of a BRAC, so it is informative and instructive to review DOD's April 2012 report to Congress seeking a BRAC authorization. Included below is an excerpt from this report that provides some preliminary insight into how DoD will define "military value" and what additional criteria it will use when determining where to realign and close installations. The criteria are similar, if not identical in some cases, to the criteria used in 2005.

*"This proposal (BRAC) would authorize two new rounds of base closures and realignments, in 2013 and 2015, using the statutory commission process that has proven, repeatedly, to be the only effective and fair way to eliminate excess Department of Defense (DoD) infrastructure and to reconfigure what must remain.*

*The Department needs to close and realign bases to meet strategic and fiscal imperatives. The United States is at a strategic turning point after a decade of war. With changes in strategy, come changes in force structure. We are shaping a joint force for the future that will be smaller and leaner, while also agile, flexible, ready, and technologically advanced. Absent a closure process, the Department is locked in a status quo configuration that does not match evolving force structure, doctrine, technology, and other changes.*

*It is axiomatic. Force structure reductions produce excess capacity; excess capacity is a drain on resources. Furthermore, retaining and sustaining bases that are excess to strategic and mission requirements is wasteful and will drive undesirable reductions in forces, training, and modernization. As Secretary Panetta stated in his press conference on January 26th, [i]n this budget environment, we simply cannot – simply cannot sustain the infrastructure that is beyond our needs or ability to maintain it.*

*Through a global examination of base infrastructure the Department will: eliminate excess infrastructure that is a drain on resources; configure its infrastructure so it is best positioned to meet strategic and mission requirements; and redirect freed-up resources to higher priorities. The Secretary has made it clear that we are at a strategic turning point.*

*The Department is already looking aggressively at overseas footprint reductions, but 33 overseas infrastructure cuts are not sufficient to make the needed reduction in our infrastructure overhead burden – we must also look at domestic infrastructure reductions. Furthermore, examining overseas infrastructure without undertaking the same effort with respect to our domestic infrastructure would limit the comprehensiveness and creativity of the effort.*

*One need only look back at recent history to recall similar strategic crossroads: the end of the cold war in the late 1980s and the catastrophic events of September 11, 2001. At both those points in history, the Department and Congress agreed that changes in force structure must be accompanied by corresponding changes in support infrastructure. Congress created the BRAC*

*process for that reason, and it has emerged as the only fair, objective, and proven process for closing and realigning military installations in the United States.*

*Budget Implications: Specific budget implications will be determined by the analysis authorized by this statute. Implementation costs will be substantial. This upfront funding, however, will be offset by resulting savings, which will be even more substantial.*

Much can be extracted from the April 2012 DoD initial report that will aid in subsequent BRAC planning and preparation efforts. What appears to be most likely is a greater emphasis on cost-savings in the next round, given the federal government's fiscal and budgetary realities, in addition to reducing excess supporting infrastructure that will result from reductions in force structure and personnel, both outside the continental United States (OCONUS) and domestically.

BRAC 2005 made significant reductions and realignments of OCONUS facilities and the general consensus among most is that the "low-hanging fruit", or low-ranking military value installations, have already been closed or realigned, thus, forcing this next BRAC to employ even higher more stringent standards and make more difficult choices. This point is critical and the ultimate justification for planning and preparing for another round of BRAC with the utmost diligence and urgency. Missouri's two largest installations, Whiteman Air Force Base and Fort Leonard Wood, have benefitted in the past from BRAC. However, as standards and metrics for measuring military value become more stringent and the levels of state and community support increase against other installations, it is vital that a full-spectrum preparatory effort be deployed.

## Chapter 5 – Initiative Goals and Efforts

### **Outreach**

Kit Bond Strategies LLC (KBS) utilized long-standing key contacts and relationships to initiate and organize preliminary engagements and site visits with the three primary DoD stakeholders in Missouri: Fort Leonard Wood, Whiteman Air Force Base and the Missouri National Guard. At these meetings, the team engaged flag officers, unit commanders, enlisted personnel, members of the senior executive service, and surrounding community business and civic leaders. Due to sensitivities expressed by some uniformed service personnel serving in Title X federal status, a more detailed breakdown of the individuals with whom we met with can be provided separately.

The primary objectives of these engagements were:

- *Inform key military, civilian and community stakeholders in Missouri about the State of Missouri's goals and objectives with this initiative. Ensure Missouri will surpass other states through its extensive engagement, partnership development and collaboration with base community stakeholders.*
- *Establish lines of communication and contacts with Missouri military stakeholders, including federal, state and local political leaders, civic and business leaders and uniformed service personnel and their dependents.*
- *Provide stakeholders with updates and briefings on the status of another BRAC, current DoD policy, planning and legislative activities that will have an impact on the footprint of Missouri's military installations.*
- *Receive updated and current overview of installations to include their current missions and operations.*
- *Discuss and conduct an assessment of potential installation vulnerabilities and recommendations for possible mission expansion targets; a good defense involves an aggressive offense.*
- *Identify and evaluate Missouri installations' strengths and weaknesses in the context of past and prospective DoD/BRAC military value criteria and the strategic DoD environment.*
- *Develop and recommend opportunities to address deficiencies, market the installations' strengths, and grow DoD activity.*

Of paramount importance to all of the stakeholders we met with was the sensitive nature and value of the assessment we are conducting. Since the primary objective of this initiative is to support the strengthening and enhancement of Missouri's installations for another BRAC, all stakeholders implored that the specific recommendations, information, opinions and analysis

provided be kept discrete and not widely disseminated. Publicizing the information, recommendations and strategies, in addition to some vulnerabilities that are pointed out, will only serve to benefit Missouri competitors. Other states or community initiatives are undertaking similar exercises and may be seeking to attract the same new missions and operations that Missouri hopes to see established or realigned at Missouri's installations. Further, some of these states may be seeking missions currently performed in Missouri. Therefore, the team underscored its commitment to keeping the information, analysis and views in this report close-hold and for-official-state-use and community/military stakeholder use only.

## Chapter 6 - Public Engagements

### ***Whiteman Air Force Base***

On Jan. 15<sup>th</sup>, 2012, Senator Kit Bond and Chairman Ike Skelton hosted a public information briefing and discussion at the Whiteman Air Force Base Golf Club. KBS project lead, Mike DuBois, and representation from Cardinal Point and Husch Blackwell provided the attendees an overview of the assessment and a glimpse into some of the initial findings. In attendance were political, civic and community leaders from the surrounding area, including Warrensburg, Sedalia, Clinton and Knob Noster. In addition, representatives from all three of the federal congressional delegation offices, the State of Missouri, the University of Central Missouri, the local school district, industry, retired military and other members from the area were all in attendance.

Subsequent to the briefing and overview, a thoughtful exchange and discussion focusing on how to enhance partnerships with the Air Force/Whiteman and the surrounding community were discussed. Many of those specific initiatives and ideas are expanded upon in the strengths and weaknesses section of this assessment.

### ***Fort Leonard Wood***

On Jan. 25, 2013 at the St. Robert Hampton Inn, KBS project lead Mike DuBois and Russell Orban of Husch Blackwell made a presentation and held a discussion along with Chairman Ike Skelton (telephonically) with roughly 85+ members from the surrounding 4-county Fort Leonard Wood region. The high, maximum capacity turnout underscored and was emblematic of the outstanding community support that Fort Leonard Wood (FLW) enjoys. The meeting was attended by representatives from the Missouri Senate, Missouri House of Representatives, local elected officials, regional chambers of commerce/economic development agencies, regional/community partnership representatives, planning commissions, industry, civilian DoD leadership, military retirees/veterans, and concerned citizens. The MO General Assembly participation was exceptionally high and extremely supportive, with commitments of support and constructive ideas offered from all Representatives.

With the successful conclusion of this forum, the legislators in attendance committed to forming a Fort Leonard Wood Caucus in the legislature. This would be a beneficial action item from the forum and one that would enhance the focus and attention that the State of Missouri is fully committed to underscoring in terms of preparing Missouri for the threats and opportunities of BRAC.

## Chapter 7 - Department of Defense Funding Outlook

In order to provide a reasonably anticipated future DoD funding outlook for the purposes of this assessment, the Future Years Defense Program (FYDP) and Army 2020 both provide direction and a glimpse of where DoD and the services are moving. The Fiscal Year (FY) 2014 DoD budget had not yet been released at the time of this assessment's completion, but it will undoubtedly recommend continued reductions in land, naval and air forces detailed in 2013 and will request authorization for another round of BRAC in 2015.

Many of the proposed reductions in the FY 2013 budget, most notably and relevant to Missouri involving the C-130 cargo aircraft, faced stiff resistance from Congress and from Governors as well. There is tremendous and unprecedented uncertainty surrounding how DoD budgeting will be executed. However, there is widespread consensus that the primary question will not be whether DoD spending is reduced, but by how deep and far-reaching.

The most significant and yet to be resolved factor depends on the outcome of the automatic federal spending reductions otherwise known as "sequestration." Congress and the President agreed to the sequestration cuts as part of the 2011 debt ceiling compromise. The automatic spending cuts, however, never were envisioned to become law, but instead were designed to be so undesirable and overbearing that Congress and the President would reach a broader deficit reduction deal in an effort to avoid harmful cuts to national security. For DoD, sequestration would mean up to \$500 billion in cuts over 10 years, on top of the already implemented \$487 billion in cuts over ten years required by the Budget Control Act of 2011.

In most years, the DoD provides a five-year plan, called the Future Years Defense Program (FYDP), associated with the budget that it submits to the Congress. Looking at the FYDP provided to the Congress in March 2012, covering fiscal years 2013 to 2017, the Congressional Budget Office concluded that the costs of DoD's plans would exceed the funding that the department can receive through 2021 under the caps established by the Budget Control Act of 2011. The pending sequestration would be an additionally limiting factor on the degree to which the plans laid out by DoD are executed in the future. As this assessment was being completed, most scenarios were moving in the direction of a temporary "sequester" taking place wherein automatic-spending cuts would be implemented on the March 1, 2013 deadline.

The budget uncertainty is already having an impact on military operations and possible cuts will have real national security consequences across DoD and Missouri. In the Army, impacts on training, readiness and maintenance will be significant and in the Air Force, a reduction in flying hours and hiring will have an impact. The Air Force recently released guidance explaining how the branch was looking to implement sequestration. The plan includes an immediate hiring freeze, reducing non-mission critical temporary and term employees, reductions in flying hours and cutting long-term investments. Additionally, Army leaders believe that furloughing employees may not give them enough leeway to make their payroll.

However, the moves being made in DoD were reversible if DoD "were to receive a full appropriation" according to the Secretary of Defense. Full sequestration would increase the stakes even more dramatically for Fort Leonard Wood, Whiteman Air Force Base and the



Missouri National Guard by further and even more dramatically shrinking available resources and missions.

Additional cuts to the DoD budget beyond those already mandated in the Budget Control Act would have an extremely detrimental impact on DoD readiness across the services, from operations, training, and much-needed modernization and recapitalization of equipment. The impacts that these reductions would have are referred to as the “hollowing out” of the force. It appears evident that the cuts will likely fall more heavily on Army land forces that have been more heavily relied upon over the last decade in Afghanistan and Iraq. The degree to which additional cuts will impact Missouri and on the success of ongoing efforts to curb cost growth for such items as medical care and new weapon systems, remain to be seen given the highly unconventional and politically charged environment surrounding the budget. It is certain, however, that these likely reductions in DoD funding will impact the domestic installation footprint, military force structure and procurement activities in Missouri. Following the submission of this report, continued and careful monitoring of the budget environment in DoD will be necessary. Further, a sustained advocacy campaign in Washington in order to mitigate the looming cuts and to protect the Missouri DoD footprint will be critically necessary as well.

### **Fort Leonard Wood**

As part of the Army 2020 planning, the Department of the Army completed in January 2013 the final Programmatic Environmental Assessment (PEA) that provides a glimpse into how future Army reductions could impact FLW. While this assessment is not part of the BRAC process, it does recommend alternative force structure reductions and realignments that may occur from Fiscal Years 2013-2020. The PEA provides a reasonable and the most current outward look at force structure changes and how they could impact FLW. The PEA evaluates and assesses the environmental impacts of potential adjustments to Army forces at 21 of the largest installations, including FLW. The Army has completed the analysis in anticipation of changes and reductions to the force, mainly the reduction in forces from 562,000 down to 490,000 personnel. The PEA proposes three alternatives:

Alternative #1: Reduction of a minimum of eight Brigade Combat Teams (BCTs) and realign other combat, combat support, and service support units.

Alternative #2: Implement Alternative 1, inactivate additional BCTs, and reorganize remaining BCTs by adding an additional combat maneuver battalion and other units.

Alternative #3: No Action Alternative wherein Army would not reduce the size of the force.

The No Action Alternative represents the ideal outcome for Fort Leonard Wood. These proposals focus largely on the Army’s core war fighting structure, the BCT. Force reductions that may occur include the inactivation of BCTs and combat support and combat service support units. Alternatives considered in the PEA evaluate the largest growth potential scenarios at installations that may occur from BCT restructuring, as well as the greatest force reduction scenarios that could occur as a result of Army force drawdown. The PEA is designed

to inform decision-makers of potential socioeconomic and environmental impacts associated with proposed actions and assess where force structure changes would be greatest. The specific locations where reductions or additions may occur have not been decided.

According to Army 2020's findings, FLW does not anticipate any significant adverse environmental impacts. However, significant socioeconomic impacts to regional population, economic activity and school districts are anticipated as a result of the implementation of Alternative 1. Alternative 1 would result in the loss of approximately 3,900 Soldier and Army government civilian employees, each with an average annual income of \$41,830. In addition, this alternative would affect an estimated 2,156 spouses and 3,709 dependent children, for a total estimated potential impact to 5,865 dependents. The total population of military employees and their dependents directly affected by Alternative 1 is projected to be 9,729 military employees and their dependents.

The PEA correctly points out that the socioeconomic impacts to FLW would be significant. Despite the negative impact to FLW that PEA contemplates in Alternative #1, an examination at how other installations fare reveals that FLW comparatively does not lose as many personnel and that cuts are spread across the 21 installations in the PEA. However, it was noted that all TRADOC installations were examined in the PEA with the exception of Forts Jackson and Rucker. It is noted with interest by this assessment that Fort Jackson, considered a competitor to FLW's missions, was not assessed for potential loss or realignment under the PEA. Moving forward, advocacy for the No Action Alternative or reductions in Army end-strength would be the most desirable for FLW. However, given the fiscal and budgetary pressures, it is deemed likely that the Army end-strength reductions from 560,000 to 490,000 are likely to continue and that the No Action Alternative is deemed unlikely, barring a major global national security event.

### **Whiteman Air Force Base**

The Air Force is refocusing its emphasis and acquisition needs to meet the administration's Pacific-focused military strategy or previously alluded to "pivot" to Asia. The Air Force, despite the many budget challenges and uncertainties in the scale of cuts, will likely continue to emphasize the need for a Long Range Strike-Bomber (LRS-B). This remains a continued prioritization as a follow-on and complementary mission to the operation and maintenance of the B-2. Whiteman would be a logical candidate within Global Strike Command for Long Range Strike-Bomber in the future. The development and continued prioritization of LRS-B represents a very long-term opportunity for Whiteman and more near to medium-term opportunity for the related defense and aerospace industry in Missouri involved in its development. Research and development (R&D) and science and technology (S&T) funding will be key to technology development for the next bomber.

The Air Force has laid out a set of near-term actions, however, that the service must take to hedge against the potential of sequestration. Among these actions includes limiting training, reducing facility maintenance and curbing spending. The actions the Air Force is taking in the near term are those that are deemed as reversible and not damaging to direct combat capabilities. If sequestration does take place, the Air Force will have to take additional and likely irreversible actions, including halting all emergency facility repairs across the force. More than

400 projects across more than 140 bases, including Whiteman, are affected by this measure, but only equates to about \$2.9 billion in savings.

### **National Guard**

Sequestration's impact on the National Guard, like that on the active duty, would be widespread. According to the National Guard Association, the Federal Military Technicians in the Army Guard and Air Guard would likely take an 8 percent pay cut. This is perhaps the most serious cut facing the National Guard. While military personnel are not to be affected by automatic cuts, civilian employees of DoD would be subject to sequestration. Military technicians fall into an ambiguous area and can expect to take a cut, probably in the form of 22 furlough days throughout the year. The day-to-day operations of the National Guard are dependent upon the work of technicians, with approximately 1600 Full-Time Equivalent and civilian personnel in the Missouri National Guard.

Operations and Maintenance budgets would decrease as well. According to an Office of Management and Budget report, the Army Guard will see a cut of \$686 million in its O&M budget and the Air Guard will see a \$577 million cut. Military construction dollars will also be reduced with \$100 million in MILCON funding reduced from the Army Guard, with the Air Guard taking a \$17 million reduction. With the oldest facilities in the military, the National Guard will be particularly hard hit. However, the likely, albeit temporary implementation of sequestration does highlight that the National Guard operates leaner and with significantly less reliance on costly infrastructure that the active-component services rely on. As a result of the National Guard's community-based force structure, particularly in the Army Guard, sequestration cuts could be easier for the Guard to tolerate. The long-term cuts, however, would affect the future readiness of the Guard throughout the country and Missouri.

## Chapter 8 - Supporting Military Communities and Economic Growth

The State of Missouri must continue to create a supportive environment for the DoD. Further, it must take the appropriate steps to market the supportive environment that it has created. While the DoD's activities and property are not subject to taxation, the operations and personnel have a direct impact on State and local governments through demand for services and surrounding local economies. The State should consider providing and seeking approval for incentives to enhance community services for DoD installations which will allow the bases to operate more efficiently and cost-effectively and result in a more favorable review of such installations relative to others across the country.

In considering such incentives, the State should review the regulatory environment, the tax structure, and the educational needs for the DoD personnel and their families as well as other state and local services that could be provided or increased in order to better support the DoD operations.

The State should view the installations as existing businesses and take the feedback and recommendations from the Sustainable Ozark Partnership at FLW. The State can work through the Departments of Economic Development, DESE, DNR, Conservation, and Higher Education to support both the DoD and the non-DoD activities of these bases. The State should consider treating the military installations and surrounding businesses an "industry cluster" to support as it has for auto makers, health care, bioscience, financial services, and the high-tech industries.

Therefore, just as the State has provided tax incentives to these other industries, such incentives for the military industry cluster might include:

- 1) Tele-education
- 2) Tele-medicine
- 3) Transportation between Lambert and FLW
- 4) Renewable/sustainable energy
- 5) Roads and highways
- 6) Adjacent land through a LATC and/or Tax Credit for Contribution
- 7) Program creation that derives funding similar to the Missouri Quality Jobs Act/Manufacturing Act to support cost of transportation and/or job training
- 8) Mandate Executive departments work with the Sustainable Ozark Partnership (and a similar organization at Whiteman)

The state should also explore a variety of federal programs to strengthen the communities surrounding the bases. The current Congressional appropriations process precludes earmarks. Therefore, the state should pursue such grants in conjunction with the Congressional delegation and federal agencies. The grant programs to consider are:

- 1) Community Development Block Grants (CDBG) for development projects that are centered on increasing the value of the communities.

- 2) Economic Development Administration grants to provide funds for infrastructure development.
- 3) Rural Development Administration grants for broadband access and family housing to improve the quality of life.
- 4) Department of Energy's Efficiency and Conservation Block Grant (EECBG) Program to provide for building weatherization, recycling, and improved HVAC systems for housing and commercial buildings.

### **Military Facility/Enterprise Zones (Opportunity)**

One way to facilitate closer collaboration between the Missouri defense industry and its DoD installations would be to establish what are known as Military Facility/Enterprise Zones (MEZ). MEZs are designated areas in close proximity to a military base or facility such as NGA or Lake City Army Ammunition plant, where industrial or economic development will directly enhance the base's ability to fulfill its mission, such as the aforementioned Long Range Strike development and collaboration. Creating these zones has the dual benefit of supporting both Missouri's installations and the defense industry that is a large and important component of the state's economic activity. The defense industry in Missouri is a tremendous asset that further underscores Missouri is a "military friendly" and supportive state.

Military facility zones have been successfully implemented in other states as vehicles to obtain and administer funds for business development, specifically relating to military activities. As an instructive example, Alaska obtains funds for these zones from its Alaska Industrial Development and Export Authority (AIDEA) and/or the Alaska Housing Finance Corporation (AHFC), or from federal New Market Tax Credits. Federal, state, or local public or private funding sources, credit, or guarantee programs can be made available directly to municipalities as well that are working on specifically approved projects within a military facility zone. Military facility zones can create opportunities for Missouri economic development. They will promote additional economic activity near military installations, particularly where local governments are working in close partnership with their military partners such as Whiteman, FLW, The National Geospatial Intelligence Agency and others.

MEZs can help promote expansion of infrastructure to benefit both military and civilian objectives, such as civil defense, homeland security and emergency response. They will enhance the nation's military capabilities by helping to better leverage the rapid innovations and technologies that are paramount to keeping the U.S. military qualitative edge second to none. The establishment of these zones will allow Missouri to send a clear message to the DOD and Missouri's defense industry that it remains committed to supporting their paramount national security efforts, continued success and growth in Missouri and aid in the defense against BRAC.

**Status:**

Military Facility Enterprise Zones have been implemented in states with some of the largest DoD footprints such as Alaska, Alabama, Arizona, Maryland, Texas and Virginia to lower the cost for the military to operate the base and thereby offering some protection against base closures. In those other states, for instance, low-cost loans or tax credits are made available to companies for projects that lower the operating cost of installations. They also can be used to attract new companies to meet specific military requirements. Zones could attract companies, for example, involved in the unmanned aerial vehicle industry to the Whiteman or FLW area or geospatial intelligence and satellite imagery companies near the National Geospatial Intelligence Agency in St. Louis, just to name a couple of examples. It would be recommended, however, that consideration be given to how the legislation could be crafted to extend the benefits of these zones to existing military industries with the state. Applying benefits to existing and appropriate defense industries would facilitate greater collaboration, support and synergy with the DoD installations and strengthen Missouri's defense industry as defense program reductions impact Missouri jobs.

The Tech 44- Ideas-Highway corridor, for example, consists of many high-technology DoD supportive industries. This non-profit organization treats Interstate 44 in Missouri as an economic development zone centered on FLW, Rolla and extending from Joplin to St. Louis. It is currently conducting a study of the industry clusters and strengths and it is expected to be able to provide an overarching structure for the industrial base and research efforts underway in the corridor. Further support for this initiative, whether through the extension of possible MEZ benefits or the creation of other incentives, should be further explored and supported.

**Department of Defense/Community Shared Services**

The Fiscal 2013 Defense Authorization Bill, which was passed by Congress just before Christmas, contains a provision (attached) that for the first time allows communities and states to partner with military installations on a broad range of support services. The new legislation is primarily aimed at cutting the cost of running military installations, but may also provide other opportunities for installations and communities surrounding them to work together on issues of mutual interest, such as mission effectiveness. Under the new provision, military installations would have a statutory authority—subject to the approval of the Secretary of Defense—to enter into agreements with state and local governments to “provide, receive, or share installation-support services”. The authority would allow a variety of intergovernmental support agreements, including arrangements in which a community provides municipal services to a local installation. These services could include maintaining buildings, roads, heating and air conditioning, operating water, sewer and electrical systems, and social and recreational services, etc.

**Status:**

As this is a recently passed legislative initiative, further identification of the shared community services opportunities is required. During public outreach meetings, the assessment team informed and charged the local community leaders to begin thinking of ideas for shared installation/community support services.



### **Advisory Council on Military Education (ACME)**

Seven colleges have served soldier voluntary education at the FLW's Truman Education Center for many years. Recently, new investments have been made by Ozarks Technical College in Waynesville to parallel the remarkable strength now provided by the Waynesville Career Center. In addition, the formation in Missouri of the Advisory Council on Military Education (ACME) follows on the model in 15 other states. ACME brings the college-level educators of the military voluntary education programs and the base Education Services Officers into close coordination with state functions. In Missouri, this effort has been tied to the Missouri Military Preparedness and Enhancement Committee and the Veteran's Committee. Missouri is home to some of the leading colleges and institutions working with and offering educational programming to servicemen around the country – Webster University, Columbia College, Grantham University, and Saint Louis University's Parks College.

ACME is particularly important to Missouri because the President of the United States signed an executive order in March 2012 to set up standards of practice common in the Departments of Education, Defense and the Veterans Affairs. ACME will assist Missouri with achieving these standards for its military bases, bringing them in line with common standards. ACME may be in a position to empower private funding and to operate a multi-institutional college campus. At FLW, a private developer has acquired the land outside of the Sverdrup gate and is designing a multi-institutional educational infrastructure to serve the needs of General Service employees, active duty troops, reservists/guardsmen, veterans, and dependents.

### **Midwest Defense Alliance (Potential Opportunity)**

Missouri and the MMPEC should explore whether deepening and expanding partnerships with adjoining states to facilitate shared interests would benefit Missouri. The Southeast Regional Planning Alliance and the Southwest Defense Alliance are instructive examples that Missouri and the MMPEC should look towards modeling as it approaches neighboring states, i.e. Oklahoma, Kansas, Nebraska and Iowa with similar military footprints and shared, joint needs. The merits of this concept are evident in how well installations within these alliances have done in terms of BRAC and mission gain over the years. By taking a joint, regional approach, Missouri working with other neighboring States can better defend themselves against BRAC by creating more military value together, leveraging each other's states strengths and minimizing weaknesses. Clearly not all of the functions can be shared, but there are some initial examples that could be explored, including opening up and sharing airspace and training ranges or storing weapons and equipment used at training ranges outstate that is costly and cumbersome to transport. These aforementioned functions, training and airspace access, represent areas wherein Missouri installations have scored lower in previous BRAC's and are much easier to offset with shared, partnership arrangements.

#### ***Status:***

The MMPEC is looking into creating such a partnership. DoD does provide some resources to stand up these regional alliances/partnerships, including staffing and organizational support. Some funds may be available, but they are limited, and the real value in establishing these alliances can be found in the enhanced military value they provide member states' installations.

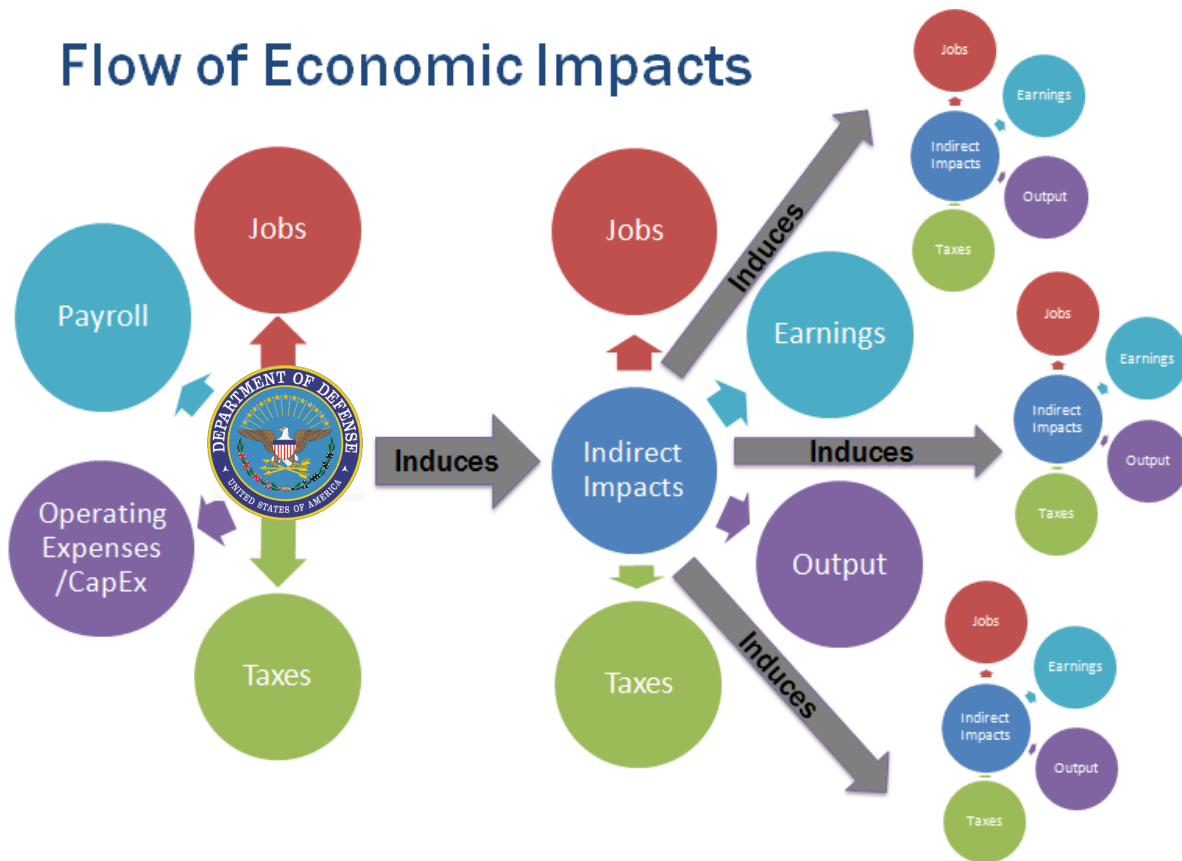
The Governor of Missouri can play a constructive role in reaching out to neighboring states to forge a Midwest Defense Alliance should it be determined it would mutually benefit all military interests.

## SECTION II - Comprehensive Economic Impact, Methodology and Assumptions

### Chapter 9 - Multipliers

Economic impacts manifest themselves in a number of ways. They are triggered through the spending of a business, a consumer, or—as is the focus here—a government agency on purchases of goods and services. This spending also supports other businesses, workers, or government agencies that use that money a “second time” to pay for their operations, which, in turn, continues a multiplier effect as that money continues to be re-spent (or “ripples”) through the economy. Moreover, employees are paid wages and salaries and their subsequent household spending in communities triggers multiplier effects.

### Flow of Economic Impacts



**Direct economic impacts** are represented in this study by the estimated dollars directly spent by the Department of Defense to operate its facilities and purchase goods and services from Missouri-based firms. These firms, in turn, directly spend their contract award dollars on their own payrolls and operations within the state.

**Indirect economic impacts** measure the “multiplier effect” of the initial spending that supports Department of Defense spending. The direct spending ripples through Missouri supporting other businesses and industries supporting other jobs; employees spend a large portion of their incomes near their homes at local businesses such as retail stores, restaurants, mechanics, housing and others services. Thus, every dollar and each job related to the Department of Defense will contribute to additional job support across multiple economic sectors.

To calculate these indirect impacts, multiplier coefficients are applied to the direct impact dollars. These multipliers take into account an amount of “leakage” from the state economy because some wages and expenditures will be spent outside of the state. Eventually, all of the direct spending leaks out of the state, but each passing round of spending creates added multiplier effects, though in diminishing degrees.

Multiplier coefficients are obtained from the U.S. Department of Commerce’s *Regional Input-Output Multiplier System* (RIMS-II). RIMS-II creates multiplier coefficients from the vast array of economic information routinely provided to state and federal governments by businesses, individuals, and government agencies. The multipliers are determined for any selected geographic area that is comprised of counties. States, metropolitan statistical areas, and other county-defined areas can have multipliers determined by RIMS-II. Multiplier coefficients for smaller geographies are not available. This report utilizes multipliers for the state of Missouri.

Economic impacts are demonstrated through multiplier effects in three primary ways:

- **Output** is a measure of the impact on a specific geographic area’s (in this case, the state of Missouri) economic activity generated from the spending and re-spending triggered by business and household spending. The output dollars summarize *total new or added economic activity at all points of the production process* rather than just the effects on, for example, gross state product (which is a measure of value to the ultimate purchaser). Output is a more robust and larger indicator of economic activity than Gross State Product (GSP).
- **Household Earnings** is a measure of how much of the total output is attributable to new income generated for households living in the targeted geographic area, which is, in this case, the state of Missouri.
- **Jobs** supported in the state of Missouri by direct expenditures and multiplier effects by the Department of Defense.

There are 62 RIMS-II multiplier categories, which can be correlated to various ranges of NAICS codes.<sup>1</sup> Spending data obtained for the DoD impact study was assigned by Development Strategies to appropriate RIMS-II categories in order to tailor the overall economic impacts to the specific expenditures by DoD in support of its installations and contractors.

A sample of the multipliers for Missouri that are used in this analysis is summarized in the table below, but in total, DoD spending in the state of Missouri included 55 of the 62 total RIMS-II multiplier categories, including household spending. For a complete listing of multipliers, see *Appendix III*. The *households* multipliers are applied to the wages and salaries paid at installations, or by contractors to their employees; the *construction* multipliers are applied to the non-labor capital expenditures for installations or contractors; the *administrative and support services* multipliers are applied to the non-labor office operations for installations or contractors; the *professional, scientific, and technical services* are applied to non-labor expenses for engineering, research, or other professional consulting services for installations or

---

<sup>1</sup>North American Industry Classification System, which is utilized by the U.S., Mexico, and Canada.

contractors; and the *machinery manufacturing* multipliers are applied to all non-labor expenditures for industries that fall within this NAICS code range of 333111 to 333999.

Table 9

## Sample of Missouri Type II Multipliers

	Output	Earnings	Employment
Households	1.322	0.34	10.781
Construction	2.167	0.634	16.882
Administrative and support services	1.996	0.661	24.104
Professional, scientific, and technical services	1.995	0.651	14.536
Machinery manufacturing	2.037	0.446	10.534

Source: U.S. Department of Commerce, Bureau of Economic Analysis, 2012

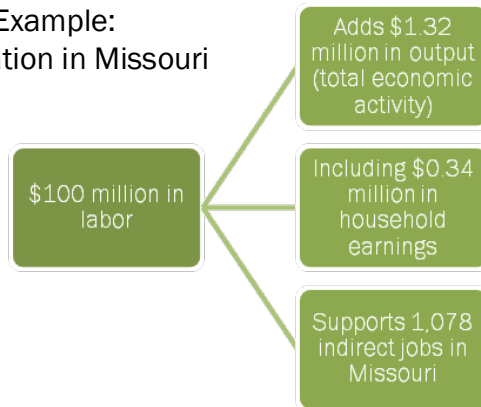
The *output* multipliers listed represent the per dollar impact of direct spending in the Missouri economy. For instance, \$1,000,000 in expenditures in the *machinery manufacturing* industry in Missouri generates an additional \$2,037,000 of economic activity in the state's economy, including \$446,000 in wages (*earnings* multiplier).

The *employment* multiplier measures how many jobs are supported *per million dollars in initial expenditures*. Thus, for the *machinery manufacturing* sector, \$1,000,000 in expenditures supports approximately 10 jobs in the state of Missouri, (9.857 to be exact),  $[(\$1,000,000 \times 10.534) \div 1,068,700]$ .<sup>2</sup>

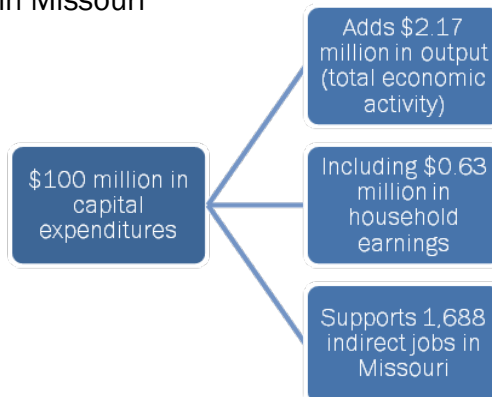
The graphics on the following page better illustrate the same calculations for Missouri for a sample of three expenditure categories: *employee compensation*, *capital expenditures*, and *non-labor administrative and support*.

<sup>2</sup>The jobs multiplier is based on the number of jobs supported per million dollars spent. The RIMS-II multipliers from the U.S. Department of Commerce for Missouri are based on 2008 economic activity and data. Therefore, the model used in this report inflates the million dollars from 2008 for Missouri, or jobs per \$1,068,700, in 2012 dollars using the national Consumer Price Index (CPI).

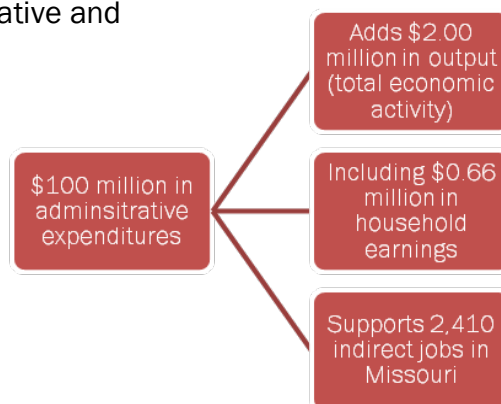
## A. Economic Impact Example: Employee Compensation in Missouri



## B. Economic Impact Example: Capital Expenditures in Missouri



## C. Economic Impact Example: Non-Labor Administrative and Support in Missouri



## Chapter 10 - Assumptions and Limitations

The primary goal of this report is to assess the direct impacts of Department of Defense spending in Missouri to operate its facilities, pay its personnel (active, inactive, civilian, and retired), and award contracts to private firms. In addition to this spending other impacts include those from visitor spending and Impact Aid allocations as well impacts to the local labor force in and around each major installation. The ability to calculate the quantitative impacts is dependent on the availability of reliable data. Much of the data used in this report are from publicly available federal sources, and to the extent possible, data directly provided by the major installations in the state (Whiteman AFB, Fort Leonard Wood, Missouri National Guard). Additional sources of data from local tourism bureaus or chambers of commerce were also used.

There are other impacts on the state of Missouri from Department of Defense activities that are more difficult to track and are not included in this report. This unaccounted for activity is summarized in two ways: 1) subcontracts issued to Missouri-based firms from Department of Defense prime contractors that are located outside of Missouri, and 2) Department of Defense personnel that are assigned to a location outside of Missouri but live in Missouri. In both cases, Department of Defense dollars are indirectly entering the state and getting absorbed into the economy.

Regarding the subcontracts awarded to Missouri-based firms, it is assumed that in addition to subcontract dollars entering the state, subcontract dollars also leave the state, since prime contractors in Missouri may source goods and services from out-of-state firms. Without reliable data to track this inflow and outflow of dollars, it is assumed that this creates a net effect of zero. Therefore, only prime contractor dollars awarded to Missouri-based firms are considered.

Regarding the residence of personnel, in accordance to federal Personally Identifiable Information (PII) compliance requirements, the home locations of Department of Defense personnel is not publically available. This report relies upon anecdotal information on personnel residence from the major installations. This report does not make any estimates for the number of personnel stationed at installations outside of Missouri, but live in the state; most notably, personnel from Scott Air Force Base and Fort Leavenworth. These personnel are paid out-of-state, but bring their household earnings into Missouri, which, in turn, impacts the Missouri economy. At the same time, it is recognized that some workers at private firms or Department of Defense installations in Missouri may not live in Missouri. This “commuter effect” is not quantitatively assessable without reliable data; therefore, given the macro scale of the following analysis, it is assumed that there is a net effect of zero regarding Missouri-based workers living outside of Missouri and workers based outside of Missouri living in Missouri.

## Chapter 11 - Economic Impacts of Department of Defense Contracts

### Economic Inputs

The Department of Defense procures a wide range of goods and services from Missouri-based firms to support operations within the state, nationally, and internationally. In fact, Department of Defense spending encompasses 55 of the 62 different RIMS-II multiplier categories demonstrating the scale of impacts across nearly every industry in the state. These goods and services range from sophisticated aircraft and weaponry to food services and uniforms. In turn, the production of these contracted goods and services support other industries across the state creating jobs and economic prosperity. These contracts do not exclusively support Missouri-based military or non-military installations; some installations from outside of Missouri procure goods and services from Missouri-based firms to support their operations; thus, Missouri uses these “out-of-state” Department of Defense dollars to export goods and services nationally and internationally. The data used to assess the economic impacts of these awarded contracts were obtained from the Federal Procurement Data System-Next Generation (FPDS-NG), which has provided all contract actions for Federal vendors since 1979.<sup>3</sup> There are several ways these contract actions have positive impacts (inflow of dollars) or negative impacts (outflow of dollars) on the state of Missouri.

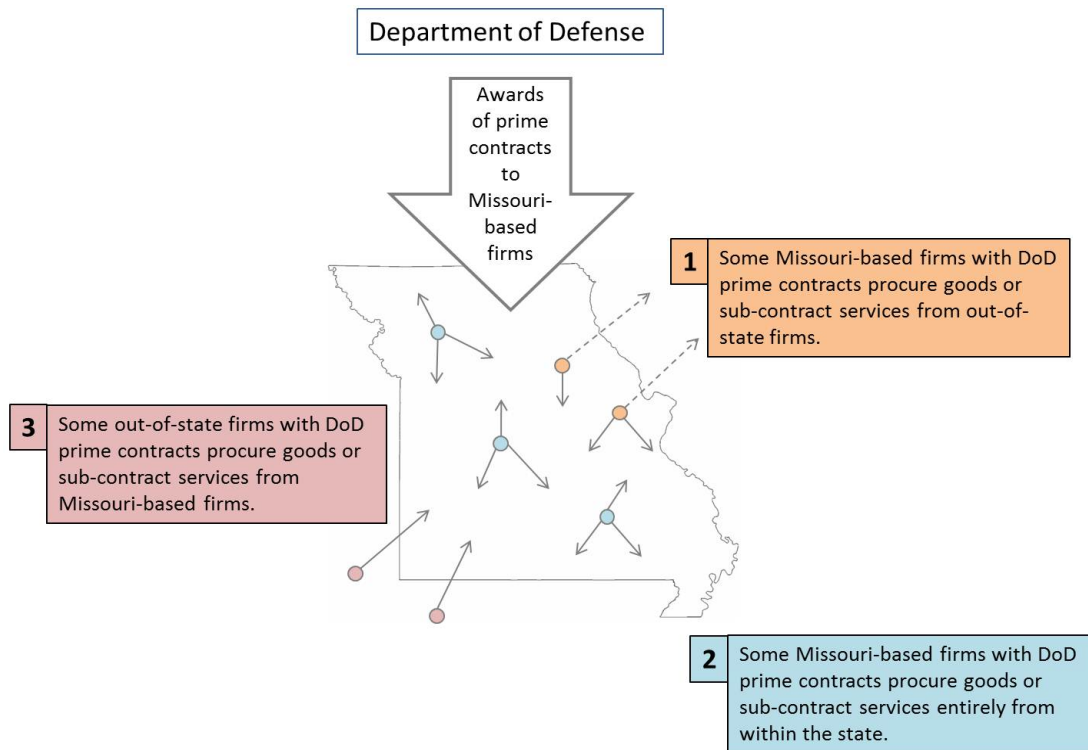
The following diagram illustrates these inflows and outflows of prime contract dollars.

- Primary contractors produce all of the goods and services within the state of Missouri; therefore the state retains all of the contract dollars and associated economic impacts (no leakage);
- Primary contractors have to source some goods and services and/or subcontract to non-Missouri-based firms in order to fulfill their contract obligations resulting in an outflow of direct contract dollars; or
- Primary contractors from outside of Missouri have to source goods and services and/or subcontract to Missouri-based firms in order to fulfill their contract obligations resulting in an inflow of contract dollars.

---

<sup>3</sup>These contract actions (\$3,000 or greater) only represent actions for primary contractors and they do not include any subcontracting plan details. Though this information is tracked through the Subcontracting Reporting System (eSRS), aggregate data showing the flow of subcontract dollars in and out of the state cannot be publicly accessed from this system.





Unfortunately, available data does not allow for such distinctions in a quantitative model to determine the precise inflow and outflow of these contract dollars; therefore, it is assumed that the inflow of subcontract dollars cancels out of the outflow of subcontract dollars and, thus, the net effect is zero. In other words, the primary contract data from FPDS-NG represents the total direct spending of Department of Defense contract dollars within the state of Missouri.

From FY2009 to FY2012, the Department of Defense awarded an annual average of \$11.7 billion to Missouri-based firms, in 2012 dollars.<sup>4</sup> Each contract action from the FPDS-NG database included the award amount, vendor name, contracting agency, date signed, NAICS code, and brief description of the procured goods and services. The RIMS-II multiplier industry categories are based on NAICS codes, so Development Strategies assigned each contract action record to the appropriate RIMS-II multiplier according to its corresponding NAICS code.<sup>5</sup> Over this time period, there were 55 different RIMS-II multipliers that corresponded to Department of Defense contract actions in Missouri (see complete listing in *Appendix I*).

In order to fulfill these contract obligations, firms must use the awarded contract dollars to hire staff and operate their facilities. Since the RIMS-II multiplier system differentiates between payroll (households) and operational expenses (industry multiplier), DS estimated how much of each contract award was allocated for payroll and operations based on the industry-wide breakdown of operational expenditures (revenues) and payroll in Missouri.<sup>6</sup> For example, in

<sup>4</sup>Throughout this report, all data from years prior to 2012 were updated to 2012 dollars using the Consumer Price Index (CPI).

<sup>5</sup>There are 62 RIMS-II multiplier categories including *households*, which represent household earning and spending. The North American Industry Classification System (NAICS) includes 1,170 industry categories.

<sup>6</sup>Based on data from the U.S. Census Bureau Economic Census 2007

the *machinery manufacturing* industry, Missouri-based firms had a total revenue of \$7.06 billion (including DoD and all other sources) and workers earned a total of \$1.42 billion; therefore, for the *machinery manufacturing* firms in Missouri, an estimated 20.1 percent of revenue can be attributed to payroll expenses [ $\$1.42 \text{ billion} \div \$7.06 \text{ billion}$ ].

Another important input for determining the economic impact of Department of Defense contract spending in Missouri is estimating the number of direct workers hired as a result of the DoD spending actions. Using the total number of reported workers in each industry,<sup>7</sup> Development Strategies determined the average wage by industry and then divided that average into the total estimated payroll expense for DoD contracts using the methodology described above. For example, in the *machinery manufacturing* industry, Missouri-based firms hired 31,585 workers resulting in an average payroll expense of \$45,000 [ $\$1.42 \text{ billion} \div 31,585 \text{ workers}$ ]. This \$45,000 average was, therefore, applied to machinery manufacturing contract amounts from DoD.

From FY2009 to FY2012, the Department of Defense awarded an average of \$91.5 million (in 2012 dollars) in contracts for *machinery manufacturing* firms in Missouri. Using the ratios from above, \$18.4 million of these contract dollars were allocated to payroll expenses supporting 409 direct employees.

Table 10

## Machinery Manufacturing Industry Data for Missouri

<b>Machinery Manufacturing Payroll and Workforce Estimate Example</b>	
<b>Machinery Manufacturing Industry Data for Missouri</b>	
Total Revenue	\$7,063,089,000
Total Payroll	\$1,421,909,000
Payroll: Revenue Breakdown	20.10%
Total Workers	31,585
Average Wage	\$45,000
<b>Direct DOD Contract Awards Impacts on Industry</b>	
Total Contract Awards <sup>2</sup>	\$91,460,000
Estimated Operations	\$73,048,000
Estimated Payroll	\$18,412,000
<b>Estimated Direct Workers</b>	<b>\$409</b>

<sup>1</sup> Based on data from the US Census Bureau Economic Census 2007

<sup>2</sup> Average annual DoD contract awards from FY2009 to FY2012 dollars for machinery manufacturing firms in Missouri as determined by NAICS code.

<sup>7</sup> *Id.*

See *Appendix I* and *Appendix II* for a the complete breakdown of operations and payroll estimates based on total average Department of Defense contract awards to Missouri-based firms by industry sector.

### Overall Economic Impacts

*Appendix III* shows the impacts for each individual industry sector for Department of Defense contracts awarded to Missouri-based firms in Missouri. Combining all 55 industry-sector analyses, the following table shows the aggregate impacts for average annual Department of Defense contract awards for Missouri-based firms.

Table 11

#### Average Annual Economic Impact of DoD Contracts Awarded to Missouri-based Firms

	Operating Expenditures <sup>2</sup>	Employee Compensation <sup>3</sup>	Total
Direct Spending <sup>1</sup>	\$9,538,820,000	\$2,172,100,000	\$11,710,920,000
<b>Multipliers</b>			
Output	1.833	1.322	1.833
Household Earnings	0.454	0.34	0.454
Employment	10.791	10.781	10.093
<b>Added Economic Impact on Missouri</b>			
Output	\$18,601,070,000	\$2,870,430,000	\$21,471,500,000
Household Earnings	\$4,582,400,000	\$738,510,000	\$5,320,910,000
Indirect Jobs Held by Missouri Residents	96,300	21,900	118,200
<b>Total Economic Impact on Missouri</b>			
Output (Total Economic Activity)			\$33,172,320,000
Household Earnings			\$7,493,010,000
Direct Jobs for Missouri Residents at Missouri-Based Firms			43,700
Total Direct & Indirect Jobs in Missouri			161,900

<sup>1</sup> Total based on average annual DoD contract awards from FY2009, in 2012 dollars, for Missouri-based firms from FPDS-NG; breakdown of payroll to operational expenditures based on industry data from the U.S. Census Bureau 2007 Economic Census

<sup>2</sup> Multipliers derived from estimated average operational expenditures by industry from FY2009 to FY2012.

<sup>3</sup> Only includes payroll expenditures attributable to Missouri residents based on the average of 3.45 percent of commuters who work in Missouri but live in other states.

When considering all Department of Defense prime contracts awarded to Missouri-based firms, from FY2009 to FY2012, the Department of Defense awarded an annual average of \$11.7 billion, in 2012 dollars.

- The \$11.7 billion in Department of Defense contract awards for Missouri-based firms triggered an additional \$21.5 billion in value added economic activity in Missouri, of which \$5.3 billion was household earnings that supported 118,200 jobs in the state (an average of \$45,000 per job). The “blended” economic activity multiplier is 1.83, indicating that the Department of Defense’s indirect economic impact for Missouri-based firms was almost twice its actual spending within the state.
- The estimated total output (economic activity) triggered by Department of Defense contract awards for Missouri-based firms (\$11.7 billion) and the added multiplier effects (\$21.5 billion) was \$33.2 billion for Missouri.
- Of that amount, Department of Defense contract awards for Missouri-based firms triggered nearly \$7.5 billion in household earnings for workers in Missouri, including an estimated \$2.2 billion in direct compensation to Missouri workers and \$5.3 billion in added household earnings from the multiplier effects.
- In total, Department of Defense contract awards for Missouri based firms supported approximately 161,900 jobs for state residents, including an average of 43,700 direct jobs for industry workers in the state of Missouri and 118,200 jobs added through the multiplier effects.

**Economic Impacts by Industry Sector**

The following table shows the impacts by aggregated industry sector. The industry categories shown here are combinations of the relevant 54 RIMS-II categories (the household multipliers are excluded since the following table is a compilation of total contract award by industry without payroll estimates). For instance, there are 10 manufacturing categories in RIMS, which are combined into a single line item on the table. Again see *Appendix III* for details on all 55 categories.

Table 12

**Impacts on DoD Contract Awards for Missouri-based Firms by Industry**

<b>Industry</b>	<b>Average Annual Contract Award</b>	<b>Estimated Direct Employees</b>	<b>Total Economic Output</b>	<b>Total Direct and Indirect Jobs</b>
Manufacturing	\$ 7,385,850,000	17,800	\$ 21,101,580,000	79,600
Professional Services	2,618,870,000	18,100	7,178,480,000	50,600
Wholesale/Retail Trade	643,230,000	2,000	1,852,990,000	12,500
Construction	597,290,000	2,800	1,789,880,000	11,500
Communications	245,000,000	800	654,760,000	2,500
Waste Management	59,800,000	400	167,310,000	1,000
Health/Social Assistance	47,150,000	400	130,680,000	1,100
Hospitality	37,820,000	900	108,360,000	1,700
Utilities	28,470,000	30	67,340,000	200
Transportation	15,600,000	100	42,630,000	300
Education	13,470,000	200	38,760,000	500
Mining	7,180,000	30	21,360,000	100
Warehousing	5,220,000	200	11,700,000	200
Rental/Leasing	4,830,000	30	13,410,000	100
Agriculture	620,000	10	1,890,000	20
Real Estate	510,000	3	1,290,000	10
Insurance	900	-	2,500	-
<b>Total</b>	<b>\$ 11,710,910,900</b>	<b>43,803</b>	<b>\$ 33,182,422,500</b>	<b>161,930</b>

Those 10 manufacturing categories capture 63 percent of all direct contract spending by DoD in Missouri, followed by 22 percent in professional services categories. Manufacturing triggers about 63 percent of all multiplier effects in the state and professional services triggers almost 22 percent. In terms of total direct and indirect jobs created or supported by DoD contract spending, manufacturing firms and professional service firms account for over 80 percent of these jobs.

### Direct Vendor Economic Impacts

From FY2009 to FY2012, the Department of Defense awarded prime contracts to a total of 2,643 Missouri-based firms with an annual average of 1,309 different firms during this time period.<sup>8</sup> The top 50 firms by average annual contract award received almost 95 percent of the total Department of Defense contract awards in the state of Missouri, or \$10.7 billion of \$11.7 billion as shown below. The Boeing Company alone accounted for 69 percent of the average annual contract awards for Missouri-based firms.

---

<sup>8</sup>This is based on the number of unique *Global DUNS* numbers from FY2009 to FY2012 from the FPDS-NG system. Each record in the database has an associated *Vendor DUNS* and *Global DUNS* number. The *Global DUNS* is the identifier for the parent company, while the *Vendor DUNS* number may include subsidiaries of the parent company. For example, McConnell Douglas is a subsidiary of Boeing Corporation. Since the subsidiaries may have multiple *Vendor DUNS* numbers for a variety of reasons, we have elected to use the *Global DUNS* number to avoid double counting in these cases.

Table 13

Top 50 Missouri-based Vendors by  
Average Annual DoD Contract Award Amount, FY 2009-FY2012

Company	2012 Average Contract Award	Company	2012 Average Contract Award
The Boeing Company	\$8,064,880,000	C & C Produce Inc.	\$18,590,000
Alliant Techsystems Inc.	\$793,050,000	U.S. Premium Beef LLC	\$17,570,000
Express Scripts Inc.	\$368,280,000	Mctech Corp.	\$17,080,000
Woldwide Technology Holding Co. Inc.	\$329,690,000	Walton Construction Company LLC	\$16,930,000
Finmeccanica Spa	\$235,680,000	McCarthy Holdings Inc.	\$15,630,000
Graybar Electric Company Inc.	\$122,920,000	Seiler Instrument & Manufacturing Co Inc	\$15,890,000
J.E. Dunn Construction Group Inc	\$104,610,000	Sabreliner Corporation	\$15,450,000
Korte Construction Company	\$82,560,000	Essex Industries Inc.	\$15,430,000
Nestle S.A.	\$66,880,000	Summit Construction Inc.	\$15,500,000
Burns & McDonnell Inc.	\$64,920,000	KCI Construction Company	\$14,150,000
Energysys	\$52,490,000	Camp Dresser & McKee Inc.	\$14,270,000
Alberici Corporation	\$46,100,000	The Lighthouse for the Blind	\$14,370,000
Leucadia National Corporation	\$43,090,000	Stauder Consulting Inc.	\$13,410,000
PLL Inc.	\$45,160,000	Gateway Military Sales LLC	\$12,920,000
Herndon Products Inc.	\$33,400,000	SAIC Inc.	\$11,760,000
State of Missouri	\$29,990,000	Production Products Manufacturing & Sales Co. Inc.	\$11,760,000
Greenleaf Construction Co. Inc.	\$29,330,000	Clayco Inc.	\$11,430,000
Engineered Air Systems, Inc	\$28,350,000	LMG Construction Services LLC	\$10,830,000
Spectrum Healthcare Resources, Inc.	\$28,310,000	ESI Contracting Corp	\$10,980,000
MRI Global	\$27,770,000	Bluescope Steel Limited	\$11,210,000
Ralcorp Holdings Inc.	\$25,090,000	Omega Pipeline Company LLC	\$10,030,000
Qnetiq Group PLC	\$25,600,000	W.A. Ellis Construction Co	\$9,560,000
Show-Me Power Electric Cooperative	\$23,410,000	Donaldson Company Inc.	\$9,550,000
Express Scripts Holding Company	\$18,620,000	Facility Defense Consultants Inc.	\$9,320,000
General Dynamics Corporation	\$18,610,000	Accent Controls Inc.	\$91,150,000
Subtotal		\$11,061,540,000	
All Other Vendors		\$649,660,000	
<b>Total Average Annual Contract Awards</b>		<b>\$11,711,200,000</b>	

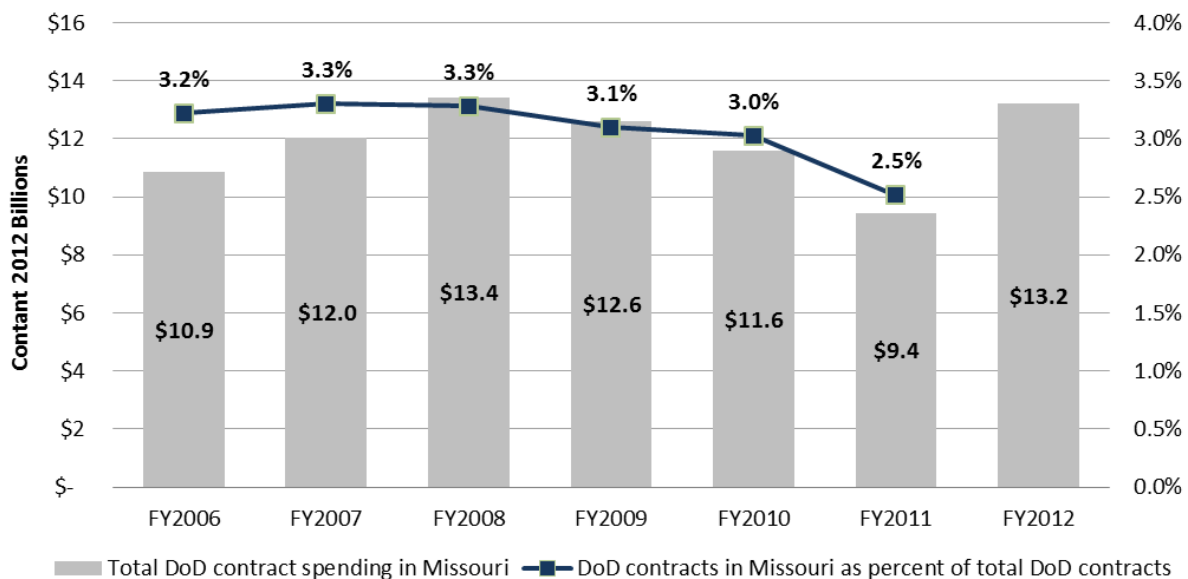
The overall average contract award for all 2,643 firms over the four fiscal years is about \$4.4 million in 2012 dollars. Obviously, the average contract is relatively small since the 50<sup>th</sup> largest recipient on the table (Accent Controls) received about twice the overall average. In fact, the median contract award for FY 2012 is just \$43,600, well below the average and is an indicator that many small firms are able to share in the receipt of Department of Defense purchases from private entities. The average median contract award over the four-year period is \$10,700, indicating that many firms do not receive contract awards on an annual basis, also emphasizing the diversity and scale of businesses contracted by the Department of Defense.

### Contract Award Trends

From FY2006 to FY2012, annual Department of Defense contract awards to Missouri-based firms was the lowest in FY2011, but increased by 40 percent in FY2012 to \$13.2 billion (all dollar amounts in constant 2012 dollars). Missouri contractors were awarded from 2.5 to 3.3 percent of total Department of Defense contract awards during this same time period. This proportion of contract awards in Missouri has been relatively consistent, but dipped in FY2011 to 2.5 percent. When this report was published, the total DoD contract award amount was unavailable for FY2012, but considering the increase in contract award amounts in Missouri from FY2011 to FY2012, the proportion of Missouri contract awards is likely consistent with FY2006 through FY2010.

Table 14

DoD Contract Spending in Missouri



Source: Center for Strategic and International Studies (CSIS), FPDS-NG



When considering Missouri's proportion of the nation's population, GDP, personal income, and jobs, which all range from 1.65 percent to 2.0 percent, Missouri's Department of Defense contract awards are proportionally higher indicating that the state's industry supporting Department of Defense activities is above the national average. The following table shows Missouri as it relates to the United States economy as a whole.

Table 15  
Missouri's Share of the U.S. Economy

	<b>US</b>	<b>Missouri</b>	<b>Percentage</b>
<b>Population</b>	311.6 million	6.01 million	1.93%
<b>GDP (2011)</b>	\$13,109 billion	\$216.1 billion	1.65%
<b>Personal Income</b>	\$12,949 billion	\$228.2 billion	1.76%
<b>Jobs</b>	175.8 million	3.5 million	1.99%
<b>Federal Civilian Personal Income</b>	\$326.5 billion	\$5.929 billion	1.82%
<b>Federal Military Personal Income</b>	\$182.3 billion	\$2.753 billion	1.51%
<b>Federal Civilian Jobs</b>	2.92 million	60,721	2.08%
<b>Federal Military Jobs</b>	2.10 million	37,867	1.81%

*Source: Bureau of Labor Statistics (BLS)*

### Scalable Economic Impacts

As discussed previously on pages 5 and 6, the multiplier impacts of Department of Defense contract awards to Missouri-based firms are *scalable*; therefore, any increase or decrease to the average contract award amounts would have a proportional effect in terms of economic output, earnings, and indirect jobs. Assuming across-the-board decreases in Department of Defense contract awards for all industries by five percent, this would result in a net loss of 2,185 direct jobs and 5,910 indirect jobs in Missouri. The effects of a 15 percent decrease would result in a net loss of 6,555 direct jobs and 17,730 indirect jobs.

Table 16

#### Impact of Reductions in DoD Contract Awards for Missouri-Based Firms

<b>Direct Impacts</b>	<i>FY2009-FY2012 Average</i>	<i>5% Reduction</i>	<i>Net Change</i>	<i>15% Reduction</i>	<i>Net Change</i>
Total Average Annual Contract Awards	\$11,710,910,000	\$11,125,364,500	\$585,545,500	\$9,954,273,500	\$1,756,636,500
Estimated Wages	2,172,100,000	\$2,063,495,000	\$108,605,000	\$1,846,285,000	\$325,815,000
Estimated Direct Jobs	43,700	41,515	2,185	37,145	6,555
<b>Multiplier Impacts</b>					
Output	\$21,471,500,000	\$20,397,925,000	\$1,073,575,000	\$18,250,775,000	\$3,220,725,000
Earnings	5,320,910,000	\$5,054,864,500	\$266,045,500	\$4,522,773,500	\$798,136,500
Indirect Jobs	118,200	112,290	5,910	100,470	17,730
<b>Total Indirect &amp; Direct Impacts</b>					
Total Economic Output	\$33,182,410,000	\$31,523,289,500	\$1,659,120,500	\$28,205,048,500	\$4,977,361,500
Total Household Earnings	\$7,493,010,000	\$7,118,359,500	\$374,650,500	\$6,369,058,500	\$1,123,951,500
Total Indirect and Direct Jobs	162,000	153,805	8,195	137,615	24,385

## Chapter 12 - Department of Defense Operations in Missouri

### Overview

The Department of Defense owns and operates several major and minor installations throughout the state, which support operations for the nation's military branches including the Army, Air Force, Navy, and Marines as well as the non-military branches such as the Army Corps of Engineers or Defense Information Systems Agency. This spending includes payroll to military and civilian personnel, operational expenditures at installations, contracted goods and services to support installation operations, construction and other capital improvements, and pension payments to retirees.



Department of Defense spending in Missouri is represented by the Department of the Air Force, Department of the Army (includes Army Corps of Engineers and Army Research Laboratory Command), the Department of the Navy (includes U.S. Marine Corps), National Guard, and agencies of the Office of the Secretary of Defense (including, but not limited to, Defense Advanced Research Projects Agency, Defense Commissary Agency, Defense Contract Management Agency, Defense Information Systems Agency, Defense Logistics Agency, Defense Security Cooperation Agency, and Defense Threat Reduction Agency). All of these departments and agencies impact the Missouri economy through their operation at the major installations such as Whiteman Air Force Base and Fort Leonard Wood, but there are also significant impacts from operations at smaller installations, which are mostly concentrated in the major population and employment centers in the state (St. Louis, Kansas City, and Jefferson City metro regions). In addition to these installations directly hiring employees, they also contract various vendors across the state to provide goods and services, which in turn hire their own staff and contribute to the state economy. Additionally, the Department of Defense pays pensions to retired personnel living in Missouri, which functions as additional household income spent in the state.

In addition to the direct impacts from Department of Defense contract awards to Missouri-based firms, the most significant impacts on the Missouri economy are generated from Whiteman Air Force Base, Fort Leonard Wood, and the Missouri National Guard. These entities pay their staff, many of whom live in the state of Missouri, and also spend money in the state to operate their facilities which include purchasing goods and services, capital construction, hiring various professional services, and maintaining their buildings and infrastructure. The payrolls to Missouri residents are direct impacts in the state. These personnel spend their household incomes in their communities, which in turn, ripples through the state creating more jobs and economic output.

The amount each installation spends within the state of Missouri is harder to evaluate. Installations make a good faith effort to spend locally, but often need to source goods and services outside of the state due to price, availability, and logistics. Therefore, regardless of how much an installation spends on procurement contracts and other services for their

operations, the specific economic impacts of that installation within the state are unknown. However, when considering the aggregate impacts of Department of Defense spending in Missouri, essentially the procurement contracts discussed in the previous section consists of one portion of impacts and the remaining impacts are generated from direct personnel expenditures. Therefore, the following profiles for Whiteman AFB, Fort Leonard Wood, and Missouri National Guard show the overall direct expenditures to operate their installations, but only the economic impacts of the personnel expenditures are calculated.

### Economic Impacts of Whiteman Air Force Base

Whiteman Air Force Base (Whiteman AFB) is located in Johnson County, Missouri just south of the city of Knob Noster about 70 miles southeast of Kansas City. It is a joint-service base that includes Air Force, Army, and Navy units. The base's host unit is the U.S. Air Force's 509th Bomb Wing (509 BW) and the tenant units include the Missouri Air National Guard's 131st Bomb Wing (131 BW), the Air Force Reserve Command's 442nd Fighter Wing (442 FW), the Missouri Army National Guard's 1/135th Aviation Battalion and the U.S. Navy Reserve's Mobile Inshore Undersea Warfare Unit 114. The B-2 Spirit stealth bomber uses Whiteman AFB as its only permanent base.



Given its rural setting, the vast majority of military and civilian personnel live on the base (active duty military only) or in the nearby communities of Knob Noster and Warrensburg, and thus, the base has a significant impact on the local community.<sup>9</sup> The Base Exchange and Commissary does provide some daily goods such as food, clothing, concessions, and a movie theater, but for the most part, personnel spend the majority of their incomes in the surrounding community. Though specific household income spending on and off the base cannot be tracked, we can assume that there is no net gain from Base Exchange and Commissary spending by Whiteman AFB for the procured goods and services provided and spending at these facilities by base personnel. With the exception of these expenditures, we assume that all other household earnings are spent in the state of Missouri. Regarding operational spending by the base itself, data was unavailable for tracking the “home locations” of contracted vendors; therefore, the multiplier impacts of operational expenditures were not calculated. However, any economic impacts from contracted Missouri-based vendors are accounted for in the previous section of this report.

The Missouri National Guard has personnel stationed at Whiteman Air Force Base; therefore, any impacts from these personnel are included in the Missouri National Guard portion of the report.

---

<sup>9</sup>Whiteman AFB could not provide the place of residence for its personnel living off-base, but anecdotally, said that the vast majority live in the state of Missouri within reasonable commuting distance.

## Economic Inputs

### Personnel

From FY2010-FY2011, Whiteman AFB had a total personnel count that averaged 9,061 including active duty, reserve, and civilian personnel.<sup>10</sup> Of the 5,983 military personnel (includes Air Force, Navy, Air National Guard, Army National Guard, and Reserves), 1,298 lived on the base (21.7 percent) and 4,685 lived off the base (78.3 percent). There was an average of 4,915 dependents for military personnel, of which, 1,710 lived on the base (34.8 percent) and 3,205 lived off the base (65.2 percent). According to Missouri National Guard personnel data, there was an average of 852 Guard personnel assigned to Whiteman AFB during this time period.

Table 17  
Whiteman Air Force Base Personnel Summary, FY2010-FY2011

	FY 2010			FY 2011			2-Year Average
	Living On-Base	Living Off-Base	Total	Living On-Base	Living Off-Base	Total	
<b>Appropriated Fund Military</b>							
Active Duty	1,185	2,222	3,407	1,411	2,351	3,762	3,585
Air Force Reserve/Air National Guard (ANG)/Army National Guard (ARNG) <sup>1</sup>	0	329	329	0	330	330	330
Non-Extended Active Duty Reserve/ANG/ARNG	0	1,972	1,972	0	2,022	2,022	1,997
Navy (Active & Reserve)	0	72	72	0	72	72	72
<b>Total</b>	1,185	4,595	5,780	1,411	4,775	6,186	5,983
<b>Active Duty Military Dependents</b>	1,524	2,945	4,469	1,895	3,465	5,360	4,915
<b>APPROPRIATED FUND CIVILIANS</b>							
General Schedule	0	647	647	0	648	648	648
Federal Wage Board	0	328	328	0	316	316	322
Other	0	1	1	0	6	6	4
<b>Total</b>	0	976	976	0	970	970	973
<b>Non-Appropriated Fund Contract Civilians and Private Business</b>							
Civilian Non-Appropriated Fund (NAF)	0	200	200	0	222	222	211
Civilian Base Exchange (BX)	0	83	83	0	88	88	86
Contract Civilians (not elsewhere included)	0	1,575	1,575	0	1,730	1,730	1,653
Private Businesses On Base, By Type	0	151	151	0	160	160	156
Branch Banks/Credit Union	0	6	6	0	6	6	6
Other Civilians (not elsewhere included)	0	145	145	0	154	154	150
<b>Total</b>	0	2,009	2,009	0	2,200	2,220	2,105
<b>Total Personnel (not including dependents)</b>	1,185	7,580	8,765	1,411	7,945	9,356	9,061

<sup>10</sup>All personnel data provided by Whiteman AFB Public Affairs Office. FY2011 was the most recent data available.

<sup>1</sup> According to personnel data from the Missouri National Guard, there was an average of 852 Guard personnel assigned to Whiteman AFB during this time period.

For those military personnel and dependents living off of the base, data is not available indicating place of residence, but as per representative of Whiteman AFB, given the location of the base in central Missouri, the vast majority live in the state of Missouri; therefore, for the purposes of our analysis, it is assumed that all personnel expenditures can be attributed to the Missouri economy.

### *Operational Expenditures*

In order to operate its facilities, Whiteman AFB spent an annual average of \$522.9 million from FY2010 to FY2011, in 2012 dollars.<sup>11</sup> These expenditures included payroll, benefits, housing stipends, purchases goods and services, construction, and other operational expenses.

Table 18

Whiteman Air Force Base Average Annual Operational Expenditures

Category	Annual Average <sup>1</sup>
Payroll	\$ 306,267,000
Military	\$ 187,536,000
Civilian	\$ 63,762,000
Contract	\$ 14,091,000
Missouri National Guard <sup>2</sup>	\$ 40,878,000
Supplies/Equipment/Other Operations	\$ 65,204,000
Service Contracts	\$ 26,937,000
Construction	\$ 144,183,000
<b>Total Average Annual Expenditures</b>	<b>\$ 542,591,000</b>

<sup>1</sup> Based on reported expenditure data from FY2010 and FY2011 provided by the Whiteman Air Force Base Public Affairs Office; averaged by Development Strategies and brought to 2012 dollars based on Consumer Price Index (CPI)

<sup>2</sup> Missouri National Guard payroll based on data from FY2010 and FY2011 provided by the Missouri National Guard; average by Development Strategies and brought to 2012 dollars based on CPI.

### *Construction*

The average annual construction expenditure of \$144.2 million consisted of all on-base capital expenditures for the Military Construction Program, Military Family Housing, and operations and maintenance of existing structures.

### *Service Contracts*

Whiteman AFB spent an average of \$25.9 million annually on service contracts. The specific breakdown of contracts was not made available, but these expenditures included B-2 upgrades,

<sup>11</sup>Expenditure data provided by the Whiteman Air Force Base Public Affairs Office.



B-2 mission planning, medical support contracts, LMR maintenance, architect and engineering services, and other support services such as custodial and mess hall services.

#### Materials, Equipment, and Supplies Procurement

Whiteman AFB spent an average of \$65.2 million on materials and equipment that included expenditures for the commissary, base exchange (BX), health, education, temporary duty (contract administrative labor), and other materials and equipment.

The following table shows the average annual breakdown for each category.

Table 19

#### Whiteman Air Force Base Average Annual Materials, Equipment and Supplies Procurement Expenditures

Category	Annual Average <sup>1</sup>
Commissary	\$ 809,000
BX	\$ 2,393,000
Health	\$ 34,910,000
Education	\$ 7,208,000
Temporary Duty (contract labor)	\$ 528,000
Other Materials, Equipment and Supplies	\$ 19,357,000
<b>Total</b>	<b>\$ 65,205,000</b>

<sup>1</sup> Based on reported expenditure data from FY2010 and FY2011 provided by the Whiteman Air Force Base Public Affairs Office; averaged by Development Strategies and brought to 2012 dollars based on Consumer Price Index (CPI).

#### Payroll

Whiteman AFB had an annual average payroll expense of \$306.3 million, in 2012 dollars. These expenditures include a housing stipend, or Base Housing Allowance (BAH), of approximately \$1,000 per month for all active military personnel who are not furnished with government housing.<sup>12</sup> The BAH is considered a part of household earnings since they are used for any market rate private housing, which would directly contribute to the local economy. There are approximately 800 market rate, privately owned rental units on the base, and in this case, tenants would receive the BAH. There are approximately 500 dorm units on the base for junior airmen and tenants of these units do not receive the BAH, but the units are free of charge.

Local economic impacts by households are determined by household earnings and location of residence since households typically spend their earnings on housing as well as on groceries, mechanics, restaurants, and other goods and service providers near their home. In the case of Whiteman AFB, not all payroll expenditures contribute to the local economy since a portion of household earnings is used for goods and services purchased at the BX or Commissary.

<sup>12</sup>The Base Housing Allowance (BHA) is determined by location, rank, and dependency status. In 2012, the BHA for Whiteman AFB ranged from \$801 to \$1,677 per month for households with dependents and \$600 to \$1,356 per month for households without dependents.



Whiteman AFB spent an average of \$3.2 million for goods and services provided at the Commissary and BX; therefore, when considering the economic impact of household earnings, assuming no net gain, the average payroll of \$306.3 million should be reduced to \$303.1 million since these purchases are not made in the local economy.

Since the total impacts of the Missouri National Guard are presented in a proceeding section, the average payroll expenditures of \$40.9 million for Guard personnel was removed from the Whiteman AFB payroll to avoid double counting household earnings.

Table 20

Economic Impacts of Personnel Spending  
Annual Economic Impact of Whiteman Air Force Base  
Household Earnings on the State of Missouri

2012 Average Annual	
	Household Earnings
Direct Spending <sup>1</sup>	\$ 262,187,700
<b>Multipliers</b>	
Output	1.32
Earnings	0.34
Employment	10.78
<b>Added Economic Impact on Missouri</b>	
Output	\$ 346,480,000
Earnings	\$ 89,140,000
Indirect Jobs Held by Missouri Residents	2,600
<b>Total Economic Impact on Missouri</b>	
Output (Total Economic Activity)	\$ 608,670,000
Earnings	\$ 351,330,000
Direct Jobs at Whiteman AFB <sup>2</sup>	8,200
Total Direct and Indirect Jobs in Missouri	10,800

<sup>1</sup> Actual personnel data from 2010 to 2011 adjusted to 2012 dollar amounts and averaged; excludes personnel expenditures for Missouri National Guard and BX/Commissary expenditures.

<sup>2</sup> Average annual number of paid personnel in 2010 and 2011; assumes that all Whiteman AFB employees live in the state of Missouri. Does not include Missouri National Guard personnel since these impacts are presented in proceeding section.

The top of the table shows direct expenditures by Whiteman AFB on payroll in the state of Missouri averaging approximately \$262.2 million annually. Additional results are discussed in the following paragraphs:

- The \$262.2 million in payroll spending for state residents triggered an additional \$346.5 million in value added economic activity in Missouri, of which \$89.1 million was household earnings that supported 2,600 jobs in the state (an average of \$34,300 per job).

- The estimated total output (economic activity) triggered by Whiteman AFB's payroll spending for state residents (\$262.2 million) and the added multiplier effects (\$346.5 million) was \$608.7 million for Missouri.
- Of that amount, Whiteman AFB's payroll spending for state residents triggered nearly \$351.3 million in household earnings for workers in Missouri, including an estimated \$262.2 million in direct compensation to Whiteman AFB personnel living in the state and \$89.1 million in added household earnings from the multiplier effects.
- In total, Whiteman AFB's payroll spending supported 10,800 jobs for state residents, including an estimated 8,200 direct jobs for Whiteman AFB's personnel in the state of Missouri and 2,600 jobs added through the multiplier effects.

### *Visitor Impacts*

Visitors come to Whiteman AFB for a number of reasons including visiting family and friends, participating in public tours of the facility and aircraft, and attending the biennial air show that attracts a number of visitors from across the region. These visitors in turn spend money in the local community and directly impact the state economy. However, when considering direct impacts on the state economy, we are only interested in accounting for "new money" brought into the state by out-of-state visitors. In-state visitors are assumed to be spending money in the state whether they visit Whiteman AFB or not, so their impact is considered neutral for these purposes.<sup>13</sup>

Whiteman AFB issued 34,739 visitors passes during calendar year 2012, which includes visitors for tours, business, and other purposes. Unfortunately, the breakdown of the type of visitor (business, family, tour) is not available. According to the Warrensburg Chamber of Commerce, visitors to the base often do not spend much time in the surrounding communities and their contribution to the local economy is minimal; therefore, the impacts of these visitors were not calculated, but it is assumed there are some residual impacts in the local community from these visitors. The biggest visitor impact is from for the two-day Wings Over Whiteman (WOW) air show, which in May 2012 attracted 40,000 attendees.<sup>14</sup>

According to a survey conducted by the Warrensburg Chamber of Commerce, based on a sample of 419 parties at the WOW air show in 2012, 21 percent of these parties came from out of state. There was an average of 4.5 persons per group and 41 percent of groups stayed overnight in local accommodations. Parties stayed for an average on one night.

---

<sup>13</sup>If Whiteman AFB helps to keep some Missouri residents in the state rather than to travel out-of-state for a similar purpose, then this "retained spending" would be considered net new income for the state's economy. But the amount of this potential retained spending is very difficult to determine, so it is ignored here other than to acknowledge that, whatever its amount, it would create a net positive economic impact.

<sup>14</sup>The Wings Over Whiteman Air Show is not an annual event, but there was a show in 2010, 2011, and 2012 with the next show in 2014. For calculating visitor impacts, it is assumed that this is an annual event.

Table 21

Wings Over Whiteman Visitor Profile<sup>1</sup>

Total visitors to the airshow	40,000
Percent of out-of-state visitors	21.30%
Total out-of-state visitors	8,500
Persons per group	4.5
Total out-of-state groups	1,889
Percent overnight visitors	41.00%
Average night stay for overnight visitors	2.25

<sup>1</sup> Data from Warrensburg Chamber of Commerce attendee survey.

Using estimated based on the average cost for hotels, meals, gas and transportation, and other retail and tourism related spending; out-of-state visitors spend an average of approximately \$996,400 in the state when attending the air show.

Table 22

## Wings Over Whiteman Average Expense Per Group Per Day/Night

Category	Cost per Item	Expense	Total Expense: Overnight Group	Total Expense: Daytrip Group	Total Expense
Hotel (2 rooms)	\$75 per room	\$150	\$ 261,400	-	\$ 261,400
Meals (per day)	\$30 per person	\$135	\$ 235,000	\$ 150,500	\$ 385,500
Gas/Transportation	\$10 per group	\$10	\$ 17,000	\$ 11,100	\$ 28,100
Other Retail/Tourism	\$25 per person	\$113	\$ 196,000	\$ 125,400	\$ 321,400
Total Expense			\$ 709,400	\$ 287,000	\$ 996,400

Similar to the contract analysis presented earlier in this report, direct tourism spending also supports direct jobs in the state. Using published industry data, the proportion of payroll to revenues and average wages were used to estimate direct jobs. See *Appendix I* for a complete listing based on industry category.

Table 23

## Whiteman Air Force Base Estimated Direct Jobs from Visitor Spending

Expenditure	Total	Percent Payroll <sup>1</sup>	Estimated Payroll	Average Wage	Estimated Direct Labor
Hotel	\$ 261,400	23.0%	60,200	20,337	3
Meals	\$ 385,500	8.1%	31,000	34,122	1
Gas	\$ 28,100	9.3%	2,600	22,549	0
Other	\$ 321,400	9.3%	30,000	22,549	1
Total	\$ 996,400		123,800		5

<sup>1</sup> Based on industry data from the Bureau of Labor Statistics (BLS).

Using these estimates for wages and direct jobs, the RIMS-II multipliers were applied to each of these categories. The *accommodations* multipliers were applied to hotel spending. The *food service and drinking places* multipliers were applied to the meals category. Since there is not a gasoline or petroleum multiplier, the *retail trade* multipliers were applied to this category. Finally, all other retail or tourist related spending; the *retail trade* multipliers were applied to this category. See *Appendix III* for a complete listing of multipliers by industry category.

The following table shows the direct and indirect economic impacts for out-of-state tourism spending for the Wings Over Whiteman air show.

Table 24

## Annual Economic Impact of Whiteman AFB Air Show on the State of Missouri

	Annual Averages						
	Accommodation	Food & Restaurant	Gas / Transport	Other Retail Purchases	Household Earnings	Total	
Direct Spending <sup>1</sup>	\$ 201,200	\$ 354,500	\$ 25,500	\$ 291,400	\$ 123,800	\$ 996,400	
<b>Multipliers</b>							
Output	2.02	2.1	1.94	1.94	1.32	1.93	
Earnings	0.52	0.58	0.58	0.58	0.34	0.54	
Employment	18.41	28.02	21.58	21.58	10.78	21.45	
<b>Added Economic Impact on Missouri</b>							
Output	\$ 408,000	\$ 745,000	\$ 49,000	\$ 564,000	\$ 164,000	\$ 1,928,000	
Earnings	\$ 106,000	\$ 204,400	\$ 14,800	\$ 169,300	\$ 42,100	\$ 536,600	
Indirect Jobs Held by Missouri Residents	3	9	1	6	1	20	
<b>Total Economic Impact on Missouri</b>							
Output (Total Economic Activity)						\$ 2,924,400	
Earnings						\$ 660,400	
Direct Jobs in Missouri							5
Total Direct and Indirect Jobs in Missouri							25

<sup>1</sup>Based on *Wings on Whiteman* attendee survey from Warrensburg Chamber of Commerce and estimates by Development Strategies

The top of the table shows direct expenditures by out-of-state attendees of the air show averaging approximately \$996,400 annually. Additional results are discussed in the following paragraphs:

- The \$996,400 million in visitor spending triggered an additional \$1.9 million in value added economic activity in Missouri, of which \$536,000 was household earnings that supported 20 jobs in the state (an average of \$26,800 per job). The “blended” economic activity multiplier is 1.93, indicating that visitor spending’s indirect economic impact was almost two times its actual spending within the state.

- The estimated total output (economic activity) triggered by direct visitor spending (\$996,400 million) and the added multiplier effects (\$1.9 million) was \$2.9 million for Missouri.
- Of that amount, Wings Over Whiteman visitor spending triggered nearly \$660,400 in household earnings for workers in Missouri, including an estimated \$123,800 in direct compensation to workers in tourism industries and \$536,600 in added household earnings from the multiplier effects.
- In total, Wings Over Whiteman visitor spending supported 25 jobs for state residents, including an estimated 5 direct jobs for tourism industry workers in the state of Missouri and 20 jobs added through the multiplier effects.

### *Social Impacts*

In addition to Whiteman's contribution to the state economy through its operations, payroll, and contract spending, the surrounding community is also impacted by the presence of the base since spouses of personnel may work in the community and their children attend local schools. Essentially, to determine Whiteman AFB's direct social impacts on the local area, the number of jobs held by spouses of Whiteman AFB's personnel and the number of children in the local school district must be estimated.

According to data provided by Whiteman AFB, from FY2010 to FY2011, there was an average of 4,915 dependents living with an average of 5,983 active duty personnel. In total, there were 3,008 total active duty and dependents living on the base. Whiteman AFB does not maintain a detailed demographic profile of the dependents of active duty personnel and does not track the number of dependents for its civilian workforce. In order to determine the number of employed dependents and children in the local school district, estimates were made based on the demographic profile of Johnson County.<sup>15</sup>

---

<sup>15</sup>Assumes that the average demographic profile of households associated with Whiteman AFB are comparable to those of Johnson County. Demographic data provided by ESRI Business Analyst, which is derived from source data from the U.S. Census Bureau. All employment data provided by the Bureau of Labor Statistics (BLS).

Table 25

## Johnson County Demographic Profile

Total Households <sup>1</sup>	19,767
Total married households	9,731
Percent married	49.20%
Total married with children	4,878
Percent with children	24.70%
Total Children (age 0-18) <sup>1</sup>	13,122
Age 0-4	4,499
Percent	34.30%
Age 5-17	8,623
Percent	65.70%
Total Workforce <sup>2</sup>	25,116
Total Employment	23,557
Unemployment Rate	6.20%
Average Workers per Married Household <sup>3</sup>	1.59

<sup>1</sup>ESRI, 2012<sup>2</sup>Bureau of Labor Statics, November 2012<sup>3</sup>Development Strategies estimate based on 2008-2010 American Community Survey data

Based on data provided by Whiteman AFB, there are 0.82 dependents per active duty personnel. Since data on civilian, contract, and service personnel is unavailable, we assume the same ratio also applies for these workers. Over 49 percent of all households in Johnson County are married; therefore, assuming the same ratio for the active duty personnel, 2,945 are married households.<sup>16</sup> Subtracting these spouses from the total dependents of active duty personnel, there are 1,970 children living in active duty personnel households [4,915 dependents – 2,945 spouses = 1,970]. Since 65.7 percent of children in Johnson County are school-aged (aged 5-17), we estimate that there are 1,294 school-aged children living in active duty households.

<sup>16</sup>For the purposes of this analysis, we are only distinguishing dependents as spouses or children. We recognize that a portion of the households may have a non-married partner as a dependent.

Table 26

## Whiteman AFB Demographic Profile Estimates

Active Duty Personnel	5,983
Total Dependents	4,915
Percent of dependents to personnel	82.10%
Civilian/Contract/Service Employees	3,078
Active Duty Estimates	
Married	2,945
Number of children	1,970
Number of school-aged	1,294
Total Civilian/Contract/Service Employee Estimates	
Number of dependents	2,528
Married	1,515
Number of children	1,013
Number of school-aged children	666
Total Estimated School-Aged Children	1,960

Using these same assumptions, there are 2,528 dependents for civilian/contract/service personnel  $[3,078 \text{ employees} \times 82.1\% = 2,528]$ , of which 1,515 are married/spouses  $[2,528 \times 49.2\% = 1,515]$  and 1,013 are children  $[2,528 - 1,515 = 1,013]$ . Of the estimated 1,013 children in civilian/contract/service personnel households, 666 are school-aged  $[1,013 \times 65.7\% = 666]$ .

In total, there are an estimated 1,960 school-aged children living in households working at Whiteman AFB. Using this school-aged children to personnel ratio of .216  $[1,960/9,061]$ , we can assume that any increase of personnel by 100 (military or civilian), increases the number of school-aged children by almost 22 students and any decrease of personnel by 100, decreases the number of school-aged children by almost 22 students.

Based on the assumptions above, there is an average of 2,945 spouses for active duty personnel and 1,515 for civilian/contract/service personnel. Based on published demographic data for Johnson County, Development Strategies estimates that married households have 1.5 workers; therefore, 50 percent of all spouses of Whiteman AFB personnel are in the labor force.

Table 27

## Whiteman AFB Demographic Estimates – Employed Spouses

Estimated Active Duty Spouses	2,945
Estimated Civilian/Contract/Service Spouses	1,515
Labor Force Estimates for Spouses	
Active Duty	1,738
Civilian/Contract/Service Employees	894
Employment Estimates	
Active Duty	1,630
Civilian/Contract/Service Employees	838
<b>Total Estimated Employed Spouses</b>	<b>2,468</b>

As of November 2012, the unemployment rate in Johnson County was 6.2 percent; therefore, we can assume that of the 2,231 spouses in the workforce, 2,468 are employed. If all of these workers were based in Johnson County, spouses of Whiteman AFB personnel would comprise of almost nine percent of the employed labor force [ $2,468 \div 23,557$  employed in Johnson County].

To understand the magnitude of Whiteman AFB on the local labor force, in the event of a complete base closure, the unemployment rate in Johnson County would be significantly higher without a significant increase in “replacement” jobs or a decrease in the overall labor force. In the event of a base closure, it is assumed that all active military personnel and dependents would be relocated. Assuming that the 5,983 military personnel along with their 1,630 employed spouses would be relocated, the labor force would decrease by 1,630, increasing the unemployment rate (military personnel are not part of the civilian workforce and would not have any further impacts on the unemployment rate). The total workforce would decrease from 25,116 to 23,486 and total employment would decrease from 23,557 to 21,927 resulting in an unemployment rate of 9.4 percent.



Table 28

Impacts of Whiteman AFB Base Closure on  
Johnson County Unemployment Rate

Current Labor Force	25,116
Current Employment	23,557
<b>Current Unemployment Rate</b>	<b>6.20%</b>
Military Personnel	5,983
Employed Dependents	1,630
Civilian	3,078
Employed Dependents	838
Post-Closure Labor Force	23,486
Post-Closure Employment	19,641
<b>Post-Closure Unemployment</b>	<b>16.40%</b>

Assuming all of the civilian workforce and their employed spouses remain in Johnson County, there would be a significant impact on the labor force and unemployment rate. In this case, the labor force would remain the same, but the total employment would decrease significantly, increasing the county unemployment rate to 16.4 percent. This is assuming that all civilian employees and their dependents remain in Johnson County. In all likelihood, many of these households would be forced to leave the county to seek out employment in other areas of the state and region, which would in turn, increases unemployment in other industries due to fewer household earnings in the county.

**Economic Impacts of Fort Leonard Wood***Introduction*

Fort Leonard Wood is located in Pulaski County, Missouri 92 miles northeast of Springfield and 138 miles southwest of St. Louis. It is a joint-service base that includes Air Force, Army, and Navy units. It is home to the Maneuver Support Center of Excellence and trains 80,000 to 90,000 military personnel and civilians annually, which includes training in engineering,



chemical/biological, radiological/nuclear, military police, brigade special troops battalions, maneuver enhancement brigades, counter-improvised explosives device, and protection. As a major training facility, trainees come from all over the country.

Similar to Whiteman AFB and given its rural location, the vast majority of military and civilian personnel live on the base (active duty military only) or in the nearby communities of Waynesville or elsewhere in Pulaski County. Trainees live on the base from anywhere from two weeks to one year, but the vast majority have home addresses outside of Missouri. Though specific household income spending on and off the base cannot be tracked, we can assume that there is no net gain from Base Exchange and Commissary spending by Fort Leonard Wood for the procured goods and services provided and spending at these facilities by base personnel. With the exception of these expenditures, we assume that all other household earnings are spent in the state of Missouri. Regarding operational spending by the base itself, data was unavailable for tracking the home locations of contracted vendors; therefore, the multiplier impacts of operational expenditures were not calculated. However, any economic impacts from contracted Missouri-based vendors are accounted for in the contractor analysis section of this report.

**Economic Inputs***Personnel*

From FY2010 to FY2012, Fort Leonard Wood had an average of 27,716 personnel including active duty, civilian personnel, and trainees.<sup>17</sup> Of these personnel, an average of 272 were Missouri National Guard personnel. The number of trainees represents the annual average number of trainees on a Full Time Equivalent basis (FTE) since training for engineering, military police, or basic training can last from two weeks to one year. Fort Leonard Wood trains approximately 50,000 individuals annually, with approximately 80,000 completing various training programs since some individuals complete multiple training sessions in a given year.

Table 29

## Fort Leonard Wood Personnel Summary, FY2010-2012

	FY2010	FY2011	FY2012	3-Year
<b>Appropriated Fund Military</b>				
Officer	801	828	855	<b>828</b>
Warrant Officer	69	77	83	<b>76</b>
Enlisted	6,145	6,097	5,726	<b>5,989</b>
National Guard Training Augmentation <sup>1</sup>	6	6	1	<b>4</b>
Total	7,021	7,008	6,665	<b>6,898</b>
<b>Active Duty Military Dependents</b>	16,935	15,125	12,462	<b>14,841</b>
<b>Appropriated Fund Civilians<sup>2</sup></b>				
Army Civilian	3,735	3,815	3,605	<b>3,718</b>
Other DoD Civilian	229	236	223	<b>229</b>
Other Civilian	5,522	5,358	4,716	<b>5,199</b>
Total	9,486	9,409	8,544	<b>9,146</b>
<b>Service Member In Training<sup>3</sup></b>				
Officer	1,079	1,352	1,480	<b>1,304</b>
Enlisted	11,268	10,476	9,360	<b>10,368</b>
Total	12,347	11,828	10,840	<b>11,672</b>
<b>Total Personnel (not including dependents)</b>	<b>28,854</b>	<b>28,245</b>	<b>26,049</b>	<b>27,716</b>

<sup>1</sup>Represents an annual FTE; there was also an average of 275 National Guard personnel during this time period included in the other military line items as per Missouri national Guard personnel data.

<sup>2</sup>Army Civilians' are hired directly by the Department of the Arm. Other DoD Civilians' are hired by other DoD agencies such as the Navy or National Guard. Other Civilians' are personnel hired by Fort Leonard Wood, but are not government employees such as service employees at Commissary and base Exchange, construction contractors, and other independent business personnel.

<sup>3</sup>Represents an annual FTE; Fort Leonard Wood trains approximately 50,000 individuals annual with approximately 80,000 completing various training programs (some individuals complete multiple training programs.)

<sup>17</sup>All personnel data provided by Fort Leonard Wood Plans Analysis and Integration Office.

During this time period, there was an average of 19,563 individuals living on the base including 1,601 active duty personnel with their 6,542 dependents, 1,043 in single soldier housing, 1,450 active duty living in other on-base lodging, and 8,927 in trainee barracks.

According to records at Fort Leonard Wood, 99.1 percent of military personnel and dependents, not including trainees, live in the state of Missouri, so we will assume that all military and civilian personnel earnings are spent in the state.<sup>18</sup> Since Fort Leonard Wood is a major army training facility, recruits are drawn all over the country. The average number of recruits coming from Missouri is three percent; therefore, it is assumed that only three percent of trainee wages remains in the state.

### *Operational Expenditures*

In order to operate its facilities, Fort Leonard Wood spent an annual average of \$1.5 billion.<sup>19</sup> These expenditures included payroll, benefits, housing stipends, purchases goods and services, construction, and other operational expenses.

Table 30

Fort Leonard Wood Average Annual Operational Expenditures<sup>1</sup>

Category	Annual Average
Payroll	\$ 1,095,840,000
Military (full-time)	\$ 529,020,000
Missouri National Guard <sup>2</sup>	\$ 9,730,000
Military (trainee)	\$ 179,040,000
Civilian	\$ 353,730,000
Contract/Private Business	\$ 24,320,000
Contracts- Supplies/Equipment/Other Operations	\$ 289,890,000
Construction <sup>3</sup>	\$ 161,010,000
<b>Total Average Annual Expenditures</b>	<b>\$ 1,546,740,000</b>

<sup>1</sup>Based on expenditures from FY2012. According to Fort Leonard Wood, expenditures from FY2012 represent a typical year with the exception of construction expenditures.

<sup>2</sup>Missouri National Guard payroll expenditures based on data provided by the Guard.

<sup>3</sup>Construction expenditure based on a three year average from FY2010 to FY2012, in 2012 dollars.

### *Construction*

The average annual construction expenditure of \$161.0 million was for major construction that took place from FY2010 to FY2012.

### *Contracts – Supplies, Equipment, and Other Operations*

<sup>18</sup>These data are based on the city where personnel receive mail, but for the purposes of this analysis, this is assumed to be a proxy for place of residence.

<sup>19</sup>Expenditure data provided by Fort Leonard Wood Plans Analysis and Integration Office.

In FY2012, Fort Leonard Wood spent \$289.9 million on contracts for materials, equipment, and services that included expenditures for training support, educational services, food service, barracks upgrades, building maintenance, utilities, healthcare, and other supplies.

The following table shows the breakdown for each category.

Table 31

Fort Leonard Wood Procurement and Contract Expenditure Breakdown

Category	FY2012 Amount
Training facility support	\$ 71,250,500
Training support	\$ 4,531,800
Education	\$ 12,191,083
Food service	\$ 23,936,000
Barracks upgrade	\$ 18,300,000
Building maintenance	\$ 14,024,000
Electricity	\$ 13,700,000
Hospital Operations	\$ 32,313,400
Hospital equipment	\$ 1,246,000
Pharmaceuticals	\$ 18,900,000
Other (supplies and contracts)	\$ 79,494,139
<b>Total</b>	<b>\$ 289,890,000</b>

The training facility support line item included expenditures for physical maintenance of training simulators and other skills training facilities. The training support line item included various contracted instructional services to assist with training on the specialized training facilities described above. The education line item includes tuition reimbursements and other educational programs. The food service line item includes services provided at the mess hall and Base Exchange (BX). The barracks upgrade and building maintenance line items were general construction expenditures. The hospital operations and hospital equipment line items were for all on base health care services.

The breakdown of the \$79.5 million spent on other supplies and contracts is unavailable. These purchases are for smaller contracts (under \$1 million) that are primarily comprised of supplies, but may include other service contracts or leases of vehicles and equipment.

#### *Payroll*

In FY2012, Fort Leonard Wood had a total payroll expense of \$1.1 billion, which accounts for almost 71 percent of total operational expenditures. These expenditures include a housing stipend, or Base Housing Allowance (BAH), of approximately \$1,000 per month for all active

military personnel who are not furnished with government housing.<sup>20</sup> The BAH is considered a part of household earnings since they are used for any market rate private housing, which would directly contribute to the local economy.

Typically, local economic impacts by households are determined by household earnings and location of residence since households typically spend their earnings on housing as well as on groceries, mechanics, restaurants, and other goods and service providers near their home. In the case of Fort Leonard Wood, not all payroll expenditures contribute to the local economy since a portion of household earnings is used for goods and services purchased at the BX or Commissary. Therefore, when considering household earnings that impact the state, the \$23.9 million spent by Fort Leonard Wood for food service is subtracted out of total payroll. Missouri National Guard payroll expenditures are not included since the impact of all Missouri National Guard wages are calculated in the proceeding section.

Table 32

Fort Leonard Wood Estimated Payroll Expenses for State Residents<sup>1</sup>

Description	Amount
Average Annual Military Personnel (non-trainee)	7,927
Average Annual Payroll Expense	\$ 529,020,000
Average Annual Civilian Personnel	9,146
Average Annual Payroll Expense	\$ 378,050,000
Average Annual Trainees	10,368
Average Annual Payroll Expense per Employee	\$ 179,040,000
Estimated Percent from Missouri	3.00%
Estimated Payroll for Missouri Residents	\$ 5,371,000
On-Base Expenditures (food service) <sup>2</sup>	\$ 23,936,000
Estimated Household Earnings Impacting Missouri	\$ 888,505,000

<sup>1</sup>Data provided by Missouri National Guard

<sup>2</sup>Assumes that the average annual total food service expenditure at Fort Leonard Wood is "paid back" by household earnings; therefore, this is removed from the total earnings impacting Missouri

<sup>20</sup>The Base Housing Allowance (BHA) is determined by location, rank, and dependency status. In 2012, the BHA for Fort Leonard Wood ranged from \$954 to \$1,728 per month for households with dependents and \$717 to \$1,374 per month for households without dependents.

*Economic Impacts of Personnel Spending*

Table 33

Annual Economic Impact of Fort Leonard Wood  
Household Earning on the State of Missouri

Annual Average in 2012 dollars <sup>1</sup>	
	Household Earnings
Direct Spending	\$ 888,505,000
<b>Multipliers</b>	
Output	1.32
Earnings	0.34
Employment	10.78
<b>Added Economic Impact On Missouri</b>	
Output	\$ 1,174,160,000
Earnings	\$ 302,090,000
Indirect Jobs Held by Missourian Residents	8,960
<b>Total Economic Impact On Missouri</b>	
Output (Total Economic Activity)	\$ 2,062,665,000
Earnings	\$ 1,190,595,000
Direct Jobs at Fort Leonard Wood <sup>2</sup>	27,445
Total Direct and Indirect Jobs in Missouri	36,405

<sup>1</sup>Actual operating data from FY2012, so no adjustment necessary for 2012 dollars. Construction expenditures based on annual average form FY2010 to FY2012; therefore, the average expenditure in 2012 dollars is presented.

<sup>2</sup>Average annual number of paid personnel from FY2010 to FY2011; includes FTE for trainees since approximately 50,000 individuals are trained annually and are stationed at Fort Leonard Wood for varying lengths of time. Number of direct jobs assumes that all Fort Leonard Wood employees live in the state of Missouri. Does not include Missouri National Guard personnel.

The top of the table shows direct expenditures by Fort Leonard Wood on payroll that can be attributed to the state of Missouri economy averaging approximately \$888.5 million annually. Additional results are discussed in the following paragraphs:

- The \$888.5 million in payroll spending for state residents triggered an additional \$1.17 billion in value added economic activity in Missouri, of which \$302.1 million was household earnings that supported 8,960 jobs in the state (an average of \$33,700 per job).
- The estimated total output (economic activity) triggered by Fort Leonard Woods payroll spending for state residents (\$888.5 million) and the added multiplier effects (\$1.17 billion) was \$2.06 billion for Missouri.
- Of that amount, the Fort Leonard Wood's payroll spending for state residents triggered nearly \$1.19 billion in household earnings for workers in Missouri, including an

estimated \$888.5 million in direct compensation to Fort Leonard Wood personnel living in the state and \$302.1 million in added household earnings from the multiplier effects.

- In total, Fort Leonard Wood's payroll spending supported 36,405 jobs for state residents, including an estimated 27,445 direct jobs for Fort Leonard Wood personnel in the state of Missouri (including annual FTEs of trainees and not including Missouri National Guard) and 8,960 jobs added through the multiplier effects.

#### *Visitor Impacts*

Fort Leonard Wood attracts visitors for a variety of reasons including business, reunions, and tours, but as a major training facility, commencement activities for graduating trainees attracts a significant number of visitors annually. According to Fort Leonard Wood, the base has an average of 200,000 visitors annually. Of these visitors it is estimated that 92 percent come from out of state; therefore, approximately 184,000 visitors are potentially bringing "new money" into the state and the surrounding area annually.

The Pulaski County Tourism Bureau tracks visitor patterns for "average" visitors to the county and those that come to Fort Leonard Wood for commencement activities. Since the majority of the 184,000 out-of-state visitors are likely coming to Pulaski County for commencement activities, to determine the economic impacts of these visitors, the "graduation attendees" visitor profile was used as provided by the Pulaski County Tourism Bureau.

Table 34  
Fort Leonard Wood Out of State Visitor Profile

Group Type	Percent Attendees <sup>1</sup>	Number of Persons	Persons per group <sup>2</sup>	Number of Groups
Adult couples	22%	40,480	2	20,240
Families with children	24%	44,160	3.5	12,617
Single Adult	12%	22,080	1	22,080
Multiple Adults	39%	71,760	2	35,880
Other	3%	5,520	2	2,760
<b>Totals</b>	<b>100%</b>	<b>184,000</b>		<b>93,577</b>

<sup>1</sup>Breakdown provided by the Pulaski County Tourism Bureau bases on Ft Leonard Wood graduation attendee profile

<sup>2</sup>Development Strategies estimates

There is no publicly available visitor spending data for Pulaski County, but Development Strategies estimates that depending on the type of group, visitors spend approximately \$145 to \$265 per night per group. This is based on estimates for hotels, meals, gas or transportation, and other retail or tourism spending.



Table 35

## Fort Leonard Wood Visitor Spending Estimates

Group Type	Expense per Group per Night Stay <sup>1</sup>				Estimate per Night Stay		
	Hotel <sup>2</sup>	Meals	Gas	Other	1 Night	2.5 Nights	5.5 Nights
Adult couples	\$80	\$60	\$10	\$50	\$200	\$500	\$1,100
Families with children	\$80	\$100	\$10	\$75	\$265	\$663	\$1,458
Single Adult	\$80	\$30	\$10	\$25	\$145	\$363	\$798
Multiple Adults	\$80	\$60	\$10	\$50	\$200	\$500	\$1,100
Other	\$80	\$60	\$10	\$50	\$200	\$500	\$1,100

<sup>1</sup>Expense estimates by Development Strategies<sup>2</sup>According to the Pulaski County Tourism Bureau, 89% of visitors stay in hotels, 6% use camping or RV sites and 5% stay with family and relatives. The hotel costs are an average when taking these factors into account.

Using the breakdown of group types and estimates for expenses per night stay, out-of-state visitors bring an estimated \$57.3 million annually to Missouri due to visits to Fort Leonard Wood.

Table 36

Fort Leonard Wood Spending Estimates – Average Nights in Pulaski County<sup>1</sup>

Group Type	Number of Groups	1 Night (2%)	2.5 Nights (76%)	5.5 Nights (22%)	Total
Adult couples	20,240	\$81,000	\$7,691,000	\$4,898,000	\$12,670,000
Families with children	12,617	\$67,000	\$6,353,000	\$4,046,000	\$10,466,000
Single Adult	22,080	\$64,000	\$6,083,000	\$3,874,000	\$10,021,000
Multiple Adults	35,880	\$144,000	\$13,634,000	\$8,683,000	\$22,461,000
Other	2,760	\$11,000	\$1,079,000	\$668,000	\$1,728,000
<b>Total</b>	<b>93,577</b>	<b>\$ 367,000</b>	<b>\$ 34,810,000</b>	<b>\$ 22,168,000</b>	<b>\$ 57,346,000</b>

<sup>1</sup>Estimates from the Pulaski County Tourism Bureau

To determine the economic impacts of this visitor spending, using the breakdown of total spending for hotels, meals, gas, and other retail spending, the appropriate multiplier categories are applied. It is assumed that this entire visitor spending occurs in and around Pulaski County or elsewhere in the state.

Table 37

Fort Leonard Wood Visitor Spending Estimates by Expenditure Category<sup>1</sup>

Expenditure	1 Night (2%)	2.5 Nights	5.5 Nights	Total
Hotel	\$150,000	\$14,224,000	\$9,058,000	\$23,432,000
Meals	\$109,000	\$10,368,000	\$6,603,000	\$17,080,000
Gas	\$19,000	\$1,778,000	\$1,132,000	\$2,929,000
Other	\$89,000	\$8,440,000	\$5,375,000	\$13,904,000
<b>Total</b>	<b>\$ 367,000</b>	<b>\$ 34,810,000</b>	<b>\$ 22,168,000</b>	<b>\$ 57,345,000</b>

<sup>1</sup>Totals slightly different from previous table due to rounding

Similar to the contract analysis presented earlier in this report, direct tourism spending also supports jobs in the state. Using published industry data, the proportion of payroll to revenues and average wages are used to estimate direct jobs. See *Appendix I* for a complete listing based on industry category.

Table 38

Fort Leonard Wood Estimated Direct Jobs from Visitor Spending<sup>1</sup>

Expenditure	Total	Percent Payroll	Estimated Payroll	Average Wage	Estimated Direct Labor
Hotel	\$23,432,000	23.0%	\$5,392,000	\$20,337	265
Meals	\$17,080,000	8.1%	\$1,375,000	\$34,122	\$40
Gas	\$2,929,000	9.3%	\$274,000	\$22,549	\$12
Other	\$13,904,000	9.3%	\$1,299,000	\$22,549	\$58
<b>Total</b>	<b>\$57,345,000</b>		<b>\$ 8,340,000</b>		<b>375</b>

<sup>1</sup>Based on industry data from the Bureau of Labor Statistics (BLS). See *Appendix I* for completed listings by multiplier category

Using these estimates for wages and direct jobs, the RIMS-II multipliers were applied to each of these categories. The *accommodations* multipliers were applied to hotel spending. The *food service and drinking places* multipliers were applied to the meals category. Since there is not a gasoline or petroleum multiplier, the *retail trade* multipliers were applied to this category. Finally, for all other retail or tourist related spending, the *retail trade* multipliers were applied to this category. See *Appendix III* for a complete listing of multipliers by industry category.

The following table shows the direct and indirect economic impacts for out-of-state tourism spending for Fort Leonard Wood.

Table 39

**Annual Economic Impact of Out-of-State Visitor Spending  
for Fort Leonard Wood on the State of Missouri**

	Annual Average					
	Accommodation	Food & Restaurants	Gas / Transport	Other Retail Purchases	Household Earnings	Total
Direct Spending <sup>1</sup>	\$ 18,040,000	\$ 15,705,000	\$ 25,500	\$ 291,400	\$ 123,800	\$ 996,400
<b>Multipliers</b>						
Output	2.02	2.1	1.94	1.94	1.32	1.92
Earnings	0.52	0.58	0.58	0.58	0.34	0.53
Employment	18.41	28.02	21.58	21.58	10.78	20.69
<b>Added Economic Impact On Missouri</b>						
Output	\$ 36,368,640	\$ 33,018,192	\$ 5,139,549	\$ 24,400,759	\$ 11,021,310	\$ 109,948,450
Earnings	\$ 9,460,176	\$ 9,055,503	\$ 1,542,555	\$ 7,323,505	\$ 2,835,600	\$ 30,217,339
Indirect Jobs Held by Missourian Residents	311	412	54	255	84	1,110
<b>Total Economic Impact On Missouri</b>						
Output (Total Economic Activity)						\$ 167,293,450
Earnings						\$ 38,557,339
Direct Jobs in Missouri						375
Total Direct and Indirect Jobs in Missouri						1,485

<sup>1</sup>Estimates based on tourism profile from Pulaski County Tourism Bureau and Development Strategies

The top of the table shows direct expenditures by visitors to Fort Leonard Wood in the state of Missouri averaging approximately \$57.3 million annually. Additional results are discussed in the following paragraphs:

- The \$57.3 million in visitor spending triggered an additional \$109.9 million in value added economic activity in Missouri, of which \$30.2 million was household earnings that supported 1,110 jobs in the state (an average of \$27,200 per job). The multipliers vary for different types of major expenditures shown at the top of the table. The “blended” economic activity multiplier is 1.92, indicating that Fort Leonard Wood’s visitor spending’s indirect economic impact was almost two times its actual spending within the state.
- The estimated total output (economic activity) triggered by Fort Leonard Wood’s direct visitor spending (\$57.3 million) and the added multiplier effects (\$109.9 million) was \$167.3 million for Missouri.
- Of that amount, Fort Leonard Wood’s visitor spending triggered nearly \$38.6 million in household earnings for workers in Missouri, including an estimated \$8.3 million in direct compensation to workers in tourism industries and \$30.2 million in added household earnings from the multiplier effects.

- In total, Fort Leonard Wood's visitor spending supported 1,485 jobs for state residents, including an estimated 375 direct jobs for tourism industry workers in the state of Missouri and 1,110 jobs added through the multiplier effects.

## Social Impacts

According to FY2013 estimates provided by Fort Leonard Wood, 10,845 civilian and military personnel at the base have children. There are a total of 13,982 children with 6,348 attending elementary, middle, or high school. Though data is unavailable as to which school district these children attend, it is assumed that the vast majority is part of the Waynesville School District. There are 5,177 children in pre-school and 2,457 in post-secondary school.

According to FY2013 estimates provided by Fort Leonard Wood, there are 11,775 married personnel with 7,317 spouses of civilian personnel and 4,458 spouses of military personnel. Without data available on the employment status of Fort Leonard Wood personnel spouses, estimates were made based on published Pulaski, Laclede, and Phelps County labor force data with the assumption that the socio-economic profile of these counties is characteristic of Fort Leonard Wood personnel households. Data is unavailable showing the breakdown of work locations for Fort Leonard Wood dependents, but it is assumed that any employed dependents are working in one of these three counties. The unemployment rate in this three-county region is 7.5 percent and the average number of workers per married household is 1.50.

Table 40

### Pulaski, Laclede, Phelps County Labor Profile

Total Workforce <sup>1</sup>	56,790
Total Employment	52,529
Unemployment Rate	7.50%
Average Workers per Married Household <sup>2</sup>	1.5

<sup>1</sup>Bureau of Labor Statistics, November 2012

<sup>2</sup>Development Strategies estimate based on 2008-2010 American Community Survey data

Using the Pulaski County unemployment rate and average number of workers per married household, there are approximately 6,184 employed spouses of military personnel in the county and 3,384 employed spouses for civilian personnel.

Table 41

## Fort Leonard Wood Demographic Estimates – Employed Spouses

Estimated Active Duty Spouses	4,458
Estimated Civilian/Contract/Service Spouses	7,317
Labor Force Estimates for Spouses	
Active duty	6.686
Civilian/Contract/ Service Employees	3.659
Employment Estimates	
Active Duty	6.184
Civilian/Contract/ Service Employees	3.384
<b>Total Estimated Employed Spouses</b>	<b>9,568</b>

To understand the magnitude of Fort Leonard Wood on the local labor force, in the event of a complete base closure, the unemployment rate in the three-county region would be significantly higher without a significant increase in “replacement” jobs or a decrease in the overall labor force. In the event of a base closure, it is assumed that all active military personnel and dependents would be relocated. Assuming the 6,898 military personnel along with their 6,184 employed spouses would be relocated, the labor force would decrease by 6,184, thus increasing the unemployment rate (military personnel are not part of the civilian workforce; therefore, they would not have any impacts on the unemployment rate). The total workforce would decrease from 50,606 to 46,345 and total employment would decrease from 52,529 to 46,345 resulting in an unemployment rate of 9.2 percent.

Table 42

Impacts of Fort Leonard Wood Base Closure on  
Pulaski, Laclede and Phelps County Unemployment Rate

Current Labor Force	56,790
Current Employment	52,529
<b>Current Unemployment Rate</b>	<b>7.50%</b>
Military Personnel	6,898
Employed Dependents	6,184
Civilian	9,146
Employed Dependents	3,384
Post-Closure Labor Force	50,606
Post-Closure Employment	39,999
<b>Post-Closure Unemployment</b>	<b>21.00%</b>

Assuming all of the civilian workforce and their employed spouses remain in the three-county region, there would be a significant impact on the labor force and unemployment rate. In this

case, the labor force would remain the same, but the total employment would decrease significantly, increasing the county unemployment rate to 21.0 percent. This is assuming that all civilian employees and their dependents remain in Pulaski, Laclede and Phelps Counties. In all likelihood, many of these households would be forced to leave the county to seek employment in other areas of the state and region, which would in turn increase unemployment in other industries due to fewer household earnings in the county.

## Chapter 13 - Economic Impacts of Missouri National Guard

### Introduction

The Missouri National Guard includes the Missouri Army National Guard and Missouri Air National Guard and operates installations and stations personnel throughout the state. The Missouri National Guard headquarters is located at the Ike Skelton Training Site in Jefferson City, Missouri. The largest proportion of personnel is stationed at the headquarters in Jefferson City, but there is also a major presence at Whiteman AFB, Jefferson Barracks in St. Louis, Rosecrans in St. Joseph, and the Army National Guard in Springfield. With personnel in 55 counties across the state, the National Guard's economic impact is less localized and is distributed throughout the state; therefore, the primary impacts are from its personnel living in the state. Since the Missouri National Guard is part of the United States National Guard and Missouri Department of Public Safety, not all of its funding is through the Department of Defense; it receives some of its funding through the state of Missouri, but the specific breakdown of state and federal funds is unavailable. Therefore, for the purposes of conducting the economic impact analysis, its entire annual spending of both state and federal funds was considered.



### Economic Inputs

#### Personnel

From FY2010 to FY2012, the Missouri National Guard hired an average of 14,152 personnel in the state including assigned personnel, active duty, and civilian personnel as well as Full-Time Equivalents (FTE's) that provided services from the state.

Table 43

Missouri National Guard Personnel Summary<sup>1</sup>

Personnel	FY2010	FY2011	FY2012	3-Year Average
Assigned Personnel	11,470	11,460	11,472	11,467
Active Duty	1,002	979	978	986
Civilian	1,561	1,466	1,479	1,502
State FTE	139	8	441	196
<b>Total</b>	<b>14,172</b>	<b>13,913</b>	<b>14,370</b>	<b>14,152</b>

<sup>1</sup>Data provided by the Missouri National Guard

*Operational Expenditures*

From FY2010 to FY2012, the Missouri National Guard spent an average of \$627.5 million to pay its personnel and operate and maintain its facilities and infrastructure. Of this spending, \$406.3 million were payroll expenditures, or 64.7 percent of the total annual expenditures.

Table 44

## Missouri National Guard Average Annual Operational Expenditures

Category	Annual Average <sup>1</sup>
Payroll	\$ 406,270,000
Supplies/Equipment/Other Operations	\$ 187,570,000
Construction	\$ 33,690,000
<b>Total Average Annual Expenditures</b>	<b>\$ 627,530,000</b>

<sup>1</sup>Based on reported expenditure data from FY2010 and FY2012 provided by the Missouri National Guard; averaged by Development Strategies and brought 2012 dollars based on Consumer Price Index (CPI).

Without a specific breakdown of the construction (\$33.7 million) and supplies/equipment/other operations expenditures (\$187.6 million) and the “origin” of these goods and services, the specific impacts on the state of Missouri economy as a result of this spending cannot be determined. However, the impacts of all Department of Defense contract purchases from Missouri-based vendors are explained in the contract analysis section of this report.

*Economic Impacts of Personnel Spending*

The following table shows the average annual impacts of payroll expenditures for Missouri National Guard personnel on Missouri.



Table 45

Annual Economic Impact of Missouri National Guard  
Household Earnings on the State of Missouri

Annual Average in 2012 dollars	
	<i>Household Earnings</i>
Direct Spending <sup>1</sup>	\$ 406,270,000
<b>Multipliers</b>	
Output	1.32
Earnings	0.34
Employment	10.78
<b>Added Economic Impact On Missouri</b>	
Output	\$ 536,886,000
Earnings	\$ 138,132,000
Indirect Jobs Held by Missourian Residents	4,100
<b>Total Economic Impact On Missouri</b>	
Output (Total Economic Activity)	\$ 943,156,000
Earnings	\$ 544,402,000
Direct Jobs in Missouri National Guard	14,150
Total Direct and Indirect Jobs in Missouri	18,250

<sup>1</sup> Actual operating data from FY2010-FY2012 adjusted to 2012 dollar amounts.

The top of the table shows direct payroll expenditures by the Missouri National Guard in the state of Missouri averaging approximately \$406.3 million annually. Additional results are discussed in the following paragraphs:

- The \$406.3 million in visitor payroll spending for state residents triggered an additional \$536.9 million in value added economic activity in Missouri, of which \$138.1 million was household earnings that supported 4,100 jobs in the state (an average of \$33,700 per job).
- The estimated total output (economic activity) triggered by the Missouri National Guards payroll spending for state residents (\$406.3 million) and the added multiplier effects (\$138.1 million) was \$544.4 million for Missouri.
- Of that amount, the Missouri National Guard's payroll spending in the state triggered nearly \$544.4 million in household earnings for workers in Missouri, including an estimated \$406.3 million in direct compensation to Guard personnel living in the state and \$138.1 million in added household earnings from the multiplier effects.
- In total, the Missouri National Guard's payroll spending supported 18,250 jobs for state residents, including an estimated 14,150 direct jobs for National Guard personnel in the state of Missouri and 4,100 jobs added through the multiplier effects.

## Economic Impacts of other Department of defense spending

### Introduction

In addition to Whiteman AFB, Fort Leonard Wood, and the Missouri National Guard, the Department of Defense also operates smaller installations throughout the state and makes pension payments to retirees. Every county in the state of Missouri is affected by Department of Defense spending whether this spending is for contractors, retirees, active personnel, inactive personnel, or installation operations. As presented in the contract analysis portion of this report, the Department of Defense spent an average of \$11.7 billion in the state from FY2009 to FY2012, in 2012 dollars, for contracted goods and services. Additionally, Fort Leonard Wood spends an estimated average of \$888.5 million, Whiteman Air Force Base spends an estimated average of \$262.2 million, and the Missouri National Guard spends an estimated average of \$392.1 million in payroll expenses attributable to the state economy. In order to determine the payroll expenses at all other installations in the state, the aggregate of the three major installations can be deducted from the total Department of Defense payroll allocated to the state of Missouri. Therefore, the total contract awards amount added to the total payroll to active and inactive personnel and pension payments to state residents represents the total direct impact of the Department of Defense in Missouri.

### Economic Inputs

#### Aggregate Department of Defense Personnel Expenditures

According to the U.S. Census Bureau's Consolidated Federal Funds Report (CFFR), the Department of Defense spent an average of \$3.07 billion for payroll and \$660.5 million in pension payments in the state of Missouri from FY2008 through FY2010, in 2012 dollars.<sup>21</sup>

Table 46

DoD Personnel Spending in Missouri, FY2008 to FY2010<sup>1</sup>

Department	FY2008	FY2009	FY2010	Annual Average, in 2012 dollars <sup>2</sup>
Total Payroll	\$ 4,334,630,000	\$ 3,095,580,000	\$ 1,776,420,000	\$ 3,068,880,000
Active Military	\$ 2,021,793,000	\$ 1,405,832,000	\$ 756,759,000	\$ 1,394,795,000
Civilian	\$ 330,040,000	\$ 329,110,000	\$ 329,280,000	\$ 329,480,000
Inactive Military	\$ 1,982,800,000	\$ 1,360,640,000	\$ 690,380,000	\$ 1,344,610,000
Retirement	\$ 607,130,000	\$ 620,620,000	\$ 632,104,000	\$ 660,480,000
Total Payroll	\$ 4,941,763,000	\$ 3,716,202,000	\$ 2,408,523,000	\$ 3,729,365,000

<sup>1</sup>Based on data from the U.S. Census Bureau Consolidated Federal Funds Report (CFFR); U.S. Congress discontinued this reporting and transparency program in 2010; therefore, FY2010 is the last year available data

<sup>2</sup>Annual averages brought to 2012 dollars using the Consumer price Index (CPI)

<sup>21</sup>U.S. Congress discontinued funding for the CFFR in 2010; therefore, FY 2010 is the last available year for this report. Beyond this report, aggregate spending data for the Department of Defense are not publicly available with the exception of the contract data from the Federal Procurement Data System – Next Generation (FPDS-NG) as presented in the previous section.

## Personnel Expenditures for Minor Installations

The reported payroll totals from each installation include reserve duty personnel, which the CFFR classifies as “Payroll – Inactive”; therefore, to determine the remaining personnel expenditures for all other installations in the state and reserve duty personnel, the personnel expenditures of each major installation is deducted from the total Department of Defense active and inactive personnel expenditures.

Table 47

DoD Personnel Expenditures (Active and Inactive) in Missouri, in 2012<sup>1</sup>

Total Department of Defense in Missouri	Whiteman AFB	Fort Leonard Wood	Missouri National Guard	All Other Installations & Inactive/Reserve
\$ 2,739,405,000	\$ 265,389,000	\$ 1,061,790,000	\$ 406,270,000	\$ 1,005,956,000

<sup>1</sup>Data from Consolidated Federal Funds Report (CFFR), Whiteman AFB, Fort Leonard Wood, Missouri National Guard. There are discrepancies in reporting periods since the aggregate DoD date is From FY2008 to FY2010 and the installation data is from FY2010 through FY2012. Since the totals are averaged over several years and brought to constant 2012 dollars, the margin of error should be minimal for the purposes of a macro-level analysis.

Without reliable data on the total number of active duty, Missouri National guard, civilian, and inactive (reserve) in the state, the number of personnel for other installations can be estimated based on the average labor expenditure per worker from the other three major installations, which is approximately \$34,600.

Table 48

## Average Personnel Labor Expenditure for Major Installations

	Whiteman AFB	Fort Leonard Wood	Missouri National Guard	Total
Total Payroll	\$ 265,389,000	\$ 1,061,790,000	\$ 406,270,000	\$ 1,733,449,000
Total Personnel <sup>1</sup>	8,209	27,716	14,152	50,076
Average Labor Expenditure	\$ 32,331	\$ 38,310	\$ 28,708	\$ 34,616

<sup>1</sup>Includes active duty, inactive duty, inactive duty (reserve), civilian, FTE of trainees, and any other reported on-bases service contract worker.

Therefore, there are 29,060 FTEs of Department of Defense personnel, active duty, civilian, and reserve personnel [ $\$1.0 \text{ billion} \div \$34,616 = 29,060$ ]. The majority of these personnel are likely inactive.

## Economic Impacts of Other Installations and Inactive Personnel

Based on the assumptions above, the Department of Defense paid an average of \$1.0 billion annually, in 2012 dollars, for personnel at minor installations and for inactive personnel. Additionally, the Department of Defense made average annual pension payments of \$660.5 million, in 2012 dollars, to state residents. The following table shows the economic impacts of these expenditures in the state.

Table 49

Annual Economic Impact of DoD Personnel Expenditures  
or Minor Installations, Inactive Duty, and Retirees

Annual Average in 2012 dollars <sup>1</sup>	
	Household Earnings
Direct Spending	\$ 1,666,436,000
<b>Multipliers</b>	
Output	1.32
Earnings	0.34
Employment	10.78
<b>Added Economic Impact On Missouri</b>	
Output	\$ 2,202,200,000
Earnings	\$ 566,590,000
Indirect Jobs Held by Missourian	16,810
<b>Total Economic Impact On Missouri</b>	
Output (Total Economic Activity)	\$ 3,868,636,000
Earnings	\$ 2,233,026,000
Direct Jobs in Missouri <sup>2</sup>	29,060
Total Direct and Indirect Jobs in Missouri	45,870

<sup>1</sup>Based on aggregate DoD personnel data from CFFR from FY2008 to FY2010 and personnel data for Whiteman AFB, Fort Leonard Wood, and Missouri National Guard brought to 2012 dollars using the CPI.

<sup>2</sup>Estimated number of direct jobs at minor installations and number of FTEs for reserve duty and other inactive personnel based on average labor expenditure per employee for Whiteman AFB, Fort Leonard Wood, and Missouri National Guard. This does not include estimated number of retirees.

The top of the table shows direct expenditures by the Department of Defense on payroll in the state of Missouri for personnel at minor installations, inactive duty, and retirees averaging approximately \$1.67 billion annually, in 2012 dollars. Additional results are discussed in the following paragraphs:

- The \$1.6 billion in payroll spending for state residents triggered an additional \$2.2 billion in value added economic activity in Missouri, of which \$566.6 million was household earnings that supported 16,810 jobs in the state (an average of \$33,700 per job).
- The estimated total output (economic activity) triggered by the Department of Defense's personnel spending for state residents (\$1.67 billion) and the added multiplier effects (\$2.20 billion) was \$3.87 billion for Missouri.
- Of that amount, the Department of Defense's personnel spending for state residents triggered nearly \$2.20 billion in household earnings for workers in Missouri, including an estimated \$1.67 million in direct compensation to active military or civilian, inactive duty, or retired personnel living in the state and \$566.6 million in added household earnings from the multiplier effects.

- In total, the Department of Defense's personnel spending supported 16,810 jobs for state residents, including an estimated 29,060 direct jobs in the state of Missouri and 3,956 jobs added through the multiplier effects. The direct jobs include active duty military personnel, civilian personnel, and inactive and/or reserve duty personnel. This does not include the number of retirees.

### Impact Aid

From FY2011 to FY2012, the state of Missouri received an average of \$16.8 million (in 2012 dollars) in Impact Aid to support school districts that are impacted by the presence of Department of Defense installations, since these communities cannot generate the tax revenue to support the school system. Impact Aid is allocated by the Department of Education. Though these are not direct expenditures by Department of Defense, Impact Aid is essentially new money coming into the state because of the presence of the Department of Defense; therefore, the direct and indirect economic impacts were determined. The Waynesville School District (Fort Leonard Wood) received almost 80 percent of state Impact Aid (\$13.4 million in 2012 dollars). Knob Noster School District received almost 20 percent (\$3.3 million in 2012 dollars). The other school districts in the state accounted for less than one percent.

Using the industry payroll and average wage data presented in *Appendix I*, the educational services industry sector allocates an average of 32.2 percent of total revenue; therefore, of the \$16.8 million of Impact Aid in the state, \$5.4 is for payroll. The average wage per worker in the educational services industry is \$19,600; therefore, there is an estimated 277 direct jobs that would otherwise not be in the state without Impact Aid.

The following table shows the direct economic impacts and indirect multiplier impacts for Impact Aid in Missouri.

Table 50

## Annual Economic Impact of Impact Aid for Missouri School Districts

Annual Average in 2012 dollars <sup>1</sup>			
	Educational Services	Household Earnings	Total
Direct Spending <sup>2</sup>	\$ 11,391,000	\$ 5,429,000	\$ 16,820,000
<b>Multipliers</b>			
Output	2.14	1.32	1.88
Earnings	0.76	0.34	0.62
Employment	23.69	10.78	19.06
<b>Added Economic Impact On Missouri</b>			
Output	\$ 24,400,000	\$ 7,170,000	\$ 31,570,000
Earnings	\$ 8,620,000	\$ 1,850,000	\$ 10,470,000
Indirect Jobs Held by	250	50	300
<b>Total Economic Impact On Missouri</b>			
Output (Total Economic Activity)			\$ 48,390,000
Earnings			\$ 15,899,000
Direct Jobs from Impact Aid <sup>2</sup>			277
Total Direct and Indirect Jobs in Missouri			577

<sup>1</sup>FY2011 and FY2012 data from national Association of Federally Impacted Schools (NAFIS) averaged and brought to 2012 dollars

<sup>2</sup>Development Strategies estimates based on BLS education sector industry data for Missouri

From FY2011 to FY2012, the Department of Education allocated an average of \$16.8 million of Impact Aid in the state of Missouri. Additional results are discussed in the following paragraphs:

- The \$16.8 million in Impact Aid spending triggered an additional \$31.6 million in value added economic activity in Missouri, of which \$10.5 billion was household earnings that supported 300 jobs in the state (an average of \$34,900 per job). The “blended” economic activity multiplier is 1.88, indicating that the Impact Aid’s indirect economic impact for its operations, pensions, and contracts were almost twice its actual spending within the state.
- The estimated total output (economic activity) triggered by Impact Aid spending (\$16.million) and the added multiplier effects (\$31.6 million) was \$48.4million for Missouri.
- Of that amount, Impact Aid spending triggered nearly \$15.9 million in household earnings for workers in Missouri, including an estimated \$5.4 million in direct compensation to school district personnel (teachers, administrators, etc.) and \$10.5 million in added household earnings from the multiplier effects.

- In total, Impact Aid spending supported 577 jobs for state residents, including an average of 277 direct jobs for local school districts in the state of Missouri and 300 jobs added through the multiplier effects.

## Total Economic IMPACT of Department of Defense Spending in Missouri

The Department of Defense contributes \$15.0 billion to the state economy through:

- contracting Missouri-based firms;
- operating its installations in the state by paying its personnel including active military personnel, trainees, inactive military personnel, civilian personnel, other contracted workers, and retirees;
- attracting out-of-state visitor spending in the communities around Fort Leonard Wood and Whiteman Air Force Base; and,
- Impact Aid to support local school districts nears Department of Defense installations.

Table 51

### Annual Economic Impact of DoD Spending on the State of Missouri

Average Annual, in 2012 dollars	
	Total DoD Impact
Direct Spending <sup>1</sup>	\$ 15,009,470,000
<b>Added Economic Impact On Missouri</b>	
Output	\$ 24,753,030,000
Earnings	\$ 6,209,700,000
Indirect Jobs Held by Missourian	152,000
<b>Total Economic Impact On Missouri</b>	
Output (Total Economic Activity)	\$ 39,763,900,000
Earnings	\$ 11,619,090,000
Direct Jobs <sup>2</sup>	123,000
Total Direct and Indirect Jobs in Missouri	257,000

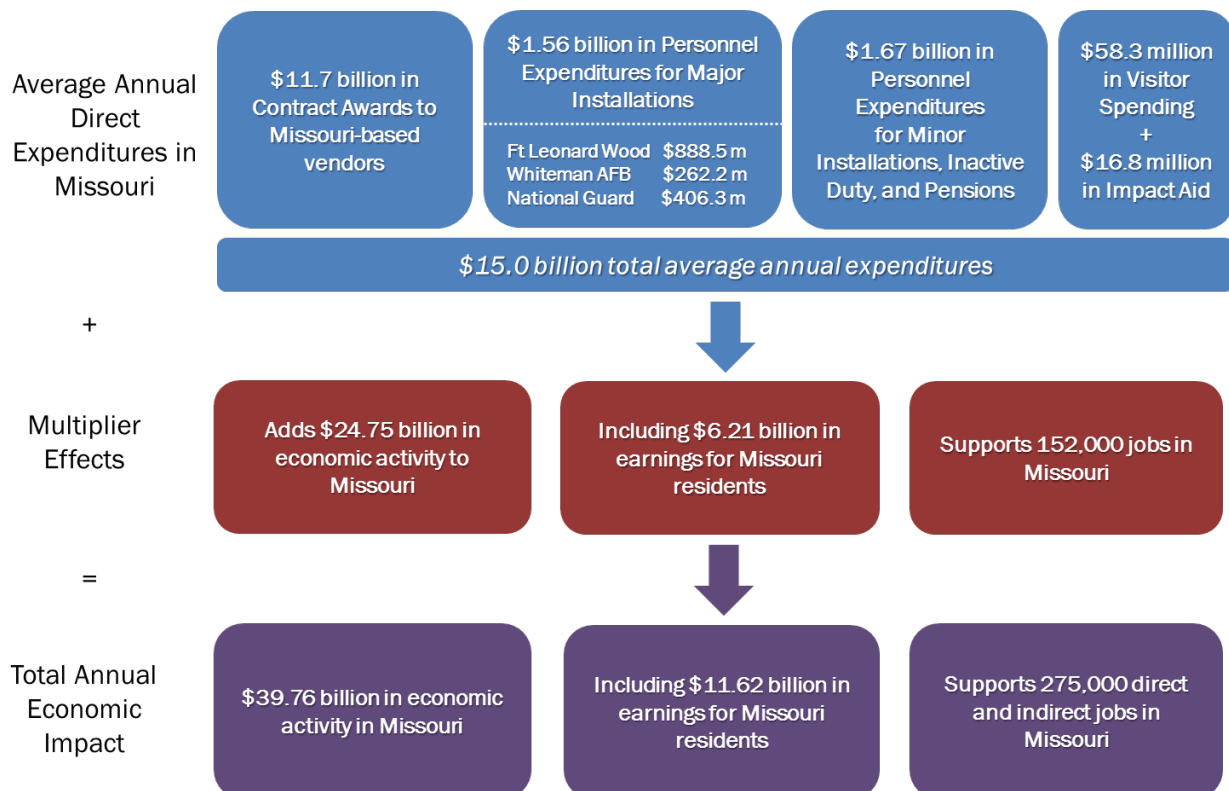
<sup>1</sup>Includes DoD contract awards to Missouri-based vendors, DoD personnel spending for major installations, minor installations, inactive duty, and retirees, out of-state visitor spending for major installations, and Impact Aid.

<sup>2</sup>Includes estimated direct jobs for active military personnel, inactive and/or reserve military personnel (FTEs), civilian personnel, direct jobs at private firms as a result of spending, and estimated direct jobs as a result of Impact Aid allocations to local school districts.

The impacts of the Department of Defense's direct contribution to the state economy of \$15.0 billion are discussed in the following paragraphs:

- The \$15.0 billion in direct DOD spending and direct spending from related DoD activities (contractors, visitors, Impact Aid) triggered an additional \$25.8 billion in value added economic activity in Missouri, of which \$6.2 billion was household earnings that supported 152,000 jobs in the state (an average of \$41,000 per job).
- The estimated total output (economic activity) triggered by the Department of Defense's spending and related activities (\$15.0 billion) and the added multiplier effects (\$24.8 billion) was \$39.8 billion for Missouri.
- Of that amount, the Department of Defense's spending and related activities triggered nearly \$11.6 billion in household earnings for workers in Missouri, including an estimated \$6.2 billion in direct compensation to active military personnel, civilian personnel, trainees, inactive duty, retired personnel living in the state, workers directly hired by contracted firms, and workers directly hired in tourism or education related industries, and \$11.6 billion in added household earnings from the multiplier effects.
- In total, the Department of Defense's spending and related activities supported 275,000 jobs for state residents, including an estimated 123,000 direct jobs in the state of Missouri and 152,000 jobs added through the multiplier effects. The direct jobs include active military personnel, civilian personnel, trainees, inactive duty, and workers directly hired by contracted firms, and workers directly hired in tourism or education related industries. This does not include retired personnel.

## Summary of the Department of Defense's Economic Impacts on Missouri





## **APPENDIX I: Industry Data**

# Missouri BRAC Preparatory Assessment

Gross Revenue, Payroll, and Employment Data for Missouri-based Industries, 2007 Economic Census

Multiplier Category	Gross Revenue (000s)	Annual payroll (000s)	Number of paid employees	Payroll as % of Gross Rev	Average Payroll per Employee
Accommodation	\$ 2,994,147	\$ 689,027	33,881	23.0%	\$ 20,337
Administrative and support services	\$ 7,596,744	\$ 3,759,812	151,637	49.5%	\$ 24,795
Air transportation	\$ 2,622,717	\$ 345,068	6,400	13.2%	\$ 53,917
Ambulatory health care services	\$ 11,004,286	\$ 4,805,817	100,041	43.7%	\$ 48,038
Amusements, gambling, and recreation	\$ 3,411,405	\$ 1,254,452	37,529	36.8%	\$ 33,426
Apparel, leather, and allied product manufacturing	\$ 166,757	\$ 49,470	2,361	29.7%	\$ 20,953
Broadcasting, except Internet	\$ 773,592	\$ 255,665	5,463	33.0%	\$ 46,799
Chemical manufacturing	\$ 14,780,050	\$ 1,012,673	17,395	6.9%	\$ 58,216
Computer and electronic product manufacturing	\$ 2,023,291	\$ 483,876	9,760	23.9%	\$ 49,577
Construction	\$ 35,462,821	\$ 7,141,357	164,362	20.1%	\$ 43,449
Crop and animal production <sup>1</sup>	\$ 1,959,854	\$ 325,526	47,033	16.6%	\$ 6,921
Educational services	\$ 498,859	\$ 161,018	8,210	32.3%	\$ 19,612
Electrical equipment and appliance manufacturing	\$ 4,011,948	\$ 489,218	12,795	12.2%	\$ 38,235
Fabricated metal product manufacturing	\$ 7,189,612	\$ 1,436,655	34,611	20.0%	\$ 41,509
Food service and drinking places	\$ 8,076,487	\$ 2,420,120	207,557	30.0%	\$ 11,660
Food, beverage, and tobacco product manufacturing	\$ 16,216,634	\$ 1,305,881	38,271	8.1%	\$ 34,122
Forestry, fishing, and related activities <sup>2</sup>	na	\$ 5,610,000	167,000	16.6%	\$ 33,593
Furniture and related product manufacturing	\$ 1,371,864	\$ 321,714	9,746	23.5%	\$ 33,010
Hospitals	\$ 16,423,600	\$ 5,847,499	138,749	35.6%	\$ 42,144
Insurance carriers and related activities <sup>3</sup>	na	\$ 2,616,457	49,313	9.2%	\$ 53,058
Internet and other information services	\$ 2,657,360	\$ 872,202	13,041	32.8%	\$ 66,882
Machinery manufacturing	\$ 7,063,089	\$ 1,421,909	31,585	20.1%	\$ 45,018
Mining, except oil and gas	\$ 976,540	\$ 161,177	3,836	16.5%	\$ 42,017
Miscellaneous manufacturing	\$ 1,969,939	\$ 413,899	11,027	21.0%	\$ 37,535
Motion picture and sound recording industries <sup>3</sup>	na	\$ 72,157	3,802	18.6%	\$ 18,979
Motor vehicle, body, trailer, and parts manufacturing	\$ 31,886,334	\$ 2,842,894	44,178	8.9%	\$ 64,351
Nonmetallic mineral product manufacturing	\$ 2,682,622	\$ 415,512	9,973	15.5%	\$ 41,664
Other services	\$ 6,770,667	\$ 1,799,903	67,476	26.6%	\$ 26,675
Other transportation and support activities	\$ 1,140,078	\$ 316,609	8,634	27.8%	\$ 36,670
Other transportation equipment manufacturing	\$ 31,886,334	\$ 2,842,894	44,178	8.9%	\$ 64,351
Paper manufacturing	\$ 4,647,443	\$ 430,906	9,641	9.3%	\$ 44,695
Performing arts, spectator sports, museums, zoos, and parks	\$ 3,411,405	\$ 1,254,452	37,529	36.8%	\$ 33,426
Petroleum and coal products manufacturing	\$ 894,511	\$ 65,817	1,350	7.4%	\$ 48,753
Pipeline Transportation	\$ 193,063	\$ 21,517	291	11.1%	\$ 73,942
Plastics and rubber products manufacturing	\$ 4,104,858	\$ 662,508	18,205	16.1%	\$ 36,392
Primary metal manufacturing	\$ 4,061,878	\$ 408,157	10,036	10.0%	\$ 40,669
Printing and related support activities	\$ 2,986,709	\$ 702,116	17,995	23.5%	\$ 39,017
Professional, scientific, and technical services	\$ 19,915,650	\$ 7,539,559	132,339	37.9%	\$ 56,972
Publishing industries, except Internet	\$ 5,372,222	\$ 1,034,140	20,630	19.2%	\$ 50,128
Rail transportation	\$ 54,176	\$ 17,721	641	32.7%	\$ 27,646

# Missouri BRAC Preparatory Assessment

Multiplier Category	Gross Revenue (000s)	Annual payroll (000s)	Number of paid employees	Payroll as % of Gross Rev	Average Payroll per Employee
Real estate	\$ 7,186,291	\$ 1,248,765	39,625	17.4%	\$ 31,515
Rental and leasing services and lessors of intangible assets <sup>4</sup>	\$ 121,685,020	\$ 21,123,459	630,124	17.4%	\$ 33,523
Retail trade	\$ 76,575,216	\$ 7,155,282	317,318	9.3%	\$ 22,549
Social assistance	\$ 2,263,851	\$ 859,889	54,785	38.0%	\$ 15,696
Support activities for mining	\$ 976,540	\$ 161,177	3,836	16.5%	\$ 42,017
Telecommunications <sup>3</sup>	na	\$ 1,584,547	28,911	15.4%	\$ 54,808
Textile and textile product mills	\$ 325,884	\$ 77,067	3,125	23.6%	\$ 24,661
Transit and ground passenger transportation	\$ 555,513	\$ 173,133	9,561	31.2%	\$ 18,108
Truck transportation	\$ 7,952,513	\$ 1,530,974	39,399	19.3%	\$ 38,858
Utilities <sup>3</sup>	na	\$ 1,198,900	16,032	8.8%	\$ 74,782
Warehousing and storage	\$ 435,368	\$ 489,885	14,453	112.5%	\$ 33,895
Waste management and remediation services	\$ 1,025,492	\$ 238,352	6,123	23.2%	\$ 38,927
Water transportation <sup>4</sup>	\$ 34,446,794	\$ 4,544,480	75,997	13.2%	\$ 59,798
Wholesale trade	\$ 117,328,998	\$ 5,801,793	129,138	4.9%	\$ 44,927
Wood product manufacturing	\$ 1,289,356	\$ 233,055	8,076	18.1%	\$ 28,858

<sup>1</sup> Data from 2007 Census of Agriculture

<sup>2</sup> State-wide data unavailable; Payroll and employment data based on federal level data from U.S. Census Bureau Statistical Abstract of the United States: 2012; Federal-level revenue data unavailable, thus used crop production payroll breakdown of 16.6 percent

<sup>3</sup> State-wide revenue data unavailable; Used federal level data from 2007 Economic Census to determine percentage of payroll to revenue

<sup>4</sup> State-wide data unavailable; Revenue, payroll and employment data based on federal level data from 2007 Economic Census

## **APPENDIX II: Industry Input Estimates**

# Missouri BRAC Preparatory Assessment

Input Estimates by Industry for Department of Defense Contracts Issued to Missouri-based Firms

Multiplier Category	Four-Year Average (in 2012 dollars) <sup>1</sup>	Proportion for payroll	Estimated Payroll	Estimated Operational Expenses	Average Payroll Expenditure per Employee	Estimated Direct Employees
Accommodation	\$ 4,155,928	23.0%	\$ 956,382	\$ 3,199,547	\$ 20,337	47
Administrative and support services	\$ 44,588,767	49.5%	\$ 22,068,057	\$ 22,520,710	\$ 24,795	890
Air transportation	\$ 70	13.2%	\$ 9	\$ 61	\$ 53,917	0
Ambulatory health care services	\$ 42,048,961	43.7%	\$ 18,363,719	\$ 23,685,242	\$ 48,038	382
Amusements, gambling, and recreation	\$ 381,436	36.8%	\$ 140,263	\$ 241,173	\$ 33,426	4
Apparel, leather, and allied product manufacturing	\$ 78,883,136	29.7%	\$ 23,401,409	\$ 55,481,727	\$ 20,953	1,117
Broadcasting, except Internet	\$ 45,990	33.0%	\$ 15,199	\$ 30,791	\$ 46,799	0
Chemical manufacturing	\$ 8,702,313	6.9%	\$ 596,249	\$ 8,106,063	\$ 58,216	10
Computer and electronic product manufacturing	\$ 700,106,340	23.9%	\$ 167,432,493	\$ 532,673,847	\$ 49,577	3,377
Construction	\$ 597,291,981	20.1%	\$ 120,280,202	\$ 477,011,779	\$ 43,449	2,768
Crop and animal production	\$ 363,689	16.6%	\$ 60,408	\$ 303,281	\$ 6,921	9
Educational services	\$ 13,470,172	32.3%	\$ 4,347,802	\$ 9,122,370	\$ 19,612	222
Electrical equipment and appliance manufacturing	\$ 64,085,291	12.2%	\$ 7,814,577	\$ 56,270,713	\$ 38,235	204
Fabricated metal product manufacturing	\$ 910,580,153	20.0%	\$ 181,955,512	\$ 728,624,642	\$ 41,509	4,384
Food service and drinking places	\$ 33,021,350	30.0%	\$ 9,894,850	\$ 23,126,500	\$ 11,660	849
Food, beverage, and tobacco product manufacturing	\$ 139,982,900	8.1%	\$ 11,272,439	\$ 128,710,462	\$ 34,122	330
Forestry, fishing, and related activities	\$ 261,175	16.6%	\$ 43,380	\$ 217,795	\$ 33,593	1
Furniture and related product manufacturing	\$ 3,104,536	23.5%	\$ 728,041	\$ 2,376,496	\$ 33,010	22
Hospitals	\$ 4,565,862	35.6%	\$ 1,625,641	\$ 2,940,222	\$ 42,144	39
Insurance carriers and related activities	\$ 904	9.2%	\$ 83	\$ 821	\$ 53,058	0
Internet and other information services	\$ 15,541,337	32.8%	\$ 5,100,997	\$ 10,440,340	\$ 66,882	76
Machinery manufacturing	\$ 91,460,059	20.1%	\$ 18,412,324	\$ 73,047,736	\$ 45,018	409
Mining, except oil and gas	\$ 1,990,876	16.5%	\$ 328,592	\$ 1,662,283	\$ 42,017	8
Miscellaneous manufacturing	\$ 74,828,467	21.0%	\$ 15,722,024	\$ 59,106,444	\$ 37,535	419
Motion picture and sound recording industries	\$ 7,204,444	18.6%	\$ 1,337,611	\$ 5,866,833	\$ 18,979	70
Motor vehicle, body, trailer, and parts manufacturing	\$ 76,455,503	8.9%	\$ 6,816,553	\$ 69,638,950	\$ 64,351	106
Nonmetallic mineral product manufacturing	\$ 3,616,302	15.5%	\$ 560,130	\$ 3,056,172	\$ 41,664	13
Other services	\$ 34,165,810	26.6%	\$ 9,082,583	\$ 25,083,227	\$ 26,675	340
Other transportation and support activities	\$ 15,242,803	27.8%	\$ 4,233,051	\$ 11,009,752	\$ 36,670	115
Other transportation equipment manufacturing	\$ 5,203,749,064	8.9%	\$ 463,951,328	\$ 4,739,797,736	\$ 64,351	7,210
Paper manufacturing	\$ 68,184	9.3%	\$ 6,322	\$ 61,862	\$ 44,695	0
Performing arts, spectator sports, museums, zoos, and parks	\$ 258,481	36.8%	\$ 95,049	\$ 163,431	\$ 33,426	3
Petroleum and coal products manufacturing	\$ 6,609,532	7.4%	\$ 486,321	\$ 6,123,211	\$ 48,753	10
Pipeline Transportation	\$ 4,443	11.1%	\$ 495	\$ 3,948	\$ 73,942	0
Plastics and rubber products manufacturing	\$ 9,935,065	16.1%	\$ 1,603,481	\$ 8,331,585	\$ 36,392	44
Primary metal manufacturing	\$ 1,885,601	10.0%	\$ 189,474	\$ 1,696,126	\$ 40,669	5
Printing and related support activities	\$ 118,324	23.5%	\$ 27,816	\$ 90,508	\$ 39,017	1
Professional, scientific, and technical services	\$ 2,540,117,021	37.9%	\$ 961,623,756	\$ 1,578,493,266	\$ 56,972	16,879
Publishing industries, except Internet	\$ 335,542	19.2%	\$ 64,591	\$ 270,951	\$ 50,128	1
Rail transportation	\$ (4,970)	32.7%	\$ (1,626)	\$ (3,345)	\$ 27,646	0
Real estate	\$ 514,379	17.4%	\$ 89,384	\$ 424,995	\$ 31,515	3
Rental and leasing services and lessors of intangible assets	\$ 4,833,528	17.4%	\$ 839,058	\$ 3,994,470	\$ 33,523	25
Retail trade	\$ 418,963,583	9.3%	\$ 39,148,470	\$ 379,815,112	\$ 22,549	1,736
Social assistance	\$ 537,303	38.0%	\$ 204,086	\$ 333,217	\$ 15,696	13
Support activities for mining	\$ 1,571,123	16.5%	\$ 259,312	\$ 1,311,810	\$ 42,017	6
Telecommunications	\$ 221,750,346	15.4%	\$ 34,044,797	\$ 187,705,549	\$ 54,808	621
Textile and textile product mills	\$ 11,230,112	23.6%	\$ 2,655,764	\$ 8,574,348	\$ 24,661	108
Transit and ground passenger transportation	\$ 115,489	31.2%	\$ 35,994	\$ 79,495	\$ 18,108	2
Truck transportation	\$ 190,633	19.3%	\$ 36,700	\$ 153,933	\$ 38,858	1
Utilities	\$ 28,465,680	8.8%	\$ 2,516,901	\$ 25,948,779	\$ 74,782	34
Warehousing and storage	\$ 5,224,936	112.5%	\$ 5,879,205	\$ (654,269)	\$ 33,895	173
Waste management and remediation services	\$ 59,799,303	23.2%	\$ 13,898,971	\$ 45,900,332	\$ 38,927	357
Water transportation	\$ 48,553	13.2%	\$ 6,405	\$ 42,147	\$ 59,798	0
Wholesale trade	\$ 224,265,820	4.9%	\$ 11,089,704	\$ 213,176,116	\$ 44,927	247
Wood product manufacturing	\$ 4,179,356	18.1%	\$ 755,431	\$ 3,423,925	\$ 28,858	26
<b>Totals</b>	<b>\$11,710,912,988</b>	<b>-</b>	<b>\$ 2,172,097,769</b>	<b>\$ 9,538,815,219</b>	<b>\$ 2,172,075</b>	<b>43,718</b>

<sup>1</sup> Based on Department of Defense contracts awarded to Missouri-based firms from FY2009 to FY2012; Source - Federal Procurement Data System-Next Generation (FPDS-NG)

## **APPENDIX III: Industry Multiplier Impacts**